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PAPER TRADE JOURNAL

VOL. 123, NO. 5 AUGUST 1, 1946

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1886—1946

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CONFIDENCE

Confidence is something to be serious about. If there is one thing we've cherished and worked hard for, it is continued good will, the evidence of that confidence with which we have been favored by three generations of papermakers. The measure of that confidence and good will has been the success of this sixty year old organization.

GOTTESMAN & COMPANY
— INCORPORATED —

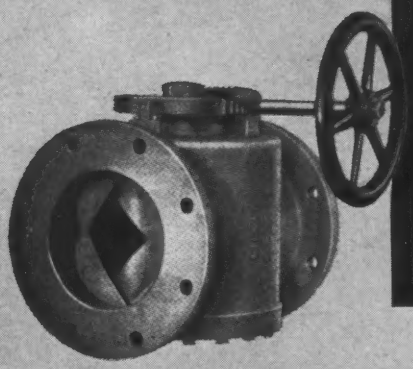
WOOD PULP

22 EAST 40th STREET • NEW YORK 16, N. Y.
EUROPEAN OFFICES: Birger Jarlsgatan 8, Stockholm, Sweden

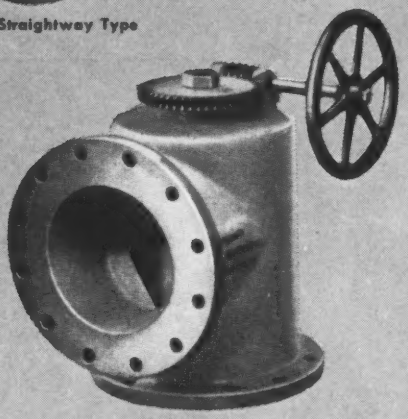
Canadian Mills Expect Another Newsprint Boost
Southern Board to Break Ground by Sept. 1
Gypsum Expects to Double Its Output
Blind River Awaits Timber Survey

George W. Mead Is Named to De-Control Board
Midwest Holds to Hope for Profit Margins
Washington Doubtful of Larger Supply
Consolidated Net Reported Doubled

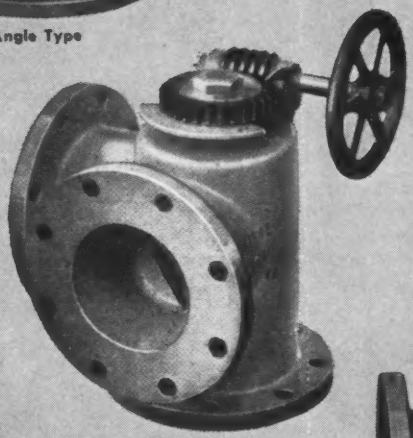
PACKINGLESS
Stock Regulating Valves
Non-Plugging



Straightway Type



Angle Type

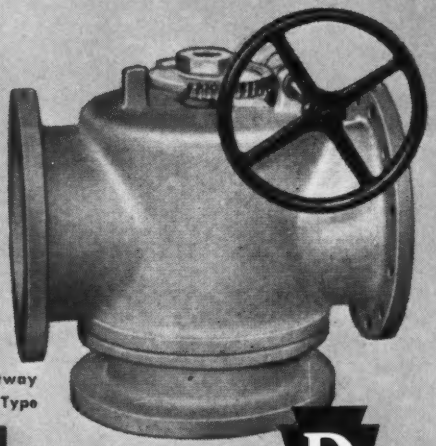


Side Outlet Type

Downingtown (Wiener Type) Stock Regulating Valves are really one cost (first cost) valves, for they require no packing or any other repair material. They assure uniform flow under uniform pressure and eliminate problems of plugging and flow control. These valves are available in both lever and worm gear operated types, with opening indicators when desired. They can be made of cast iron, steel, bronze, stainless steel and other metals; all sizes from one to 24 inches. May we send you a quotation?

DOWNINGTOWN MFG. CO.
DOWNINGTOWN, PA.

We also manufacture the Downingtown (Wiener Type) Pressure Refiner. Information on request.

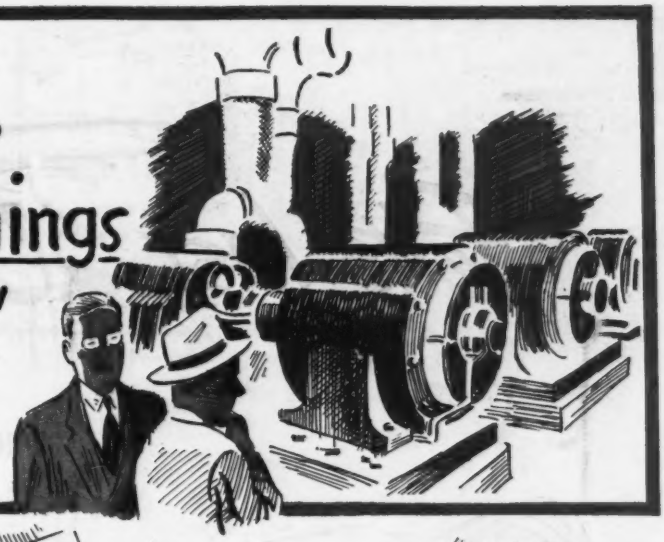


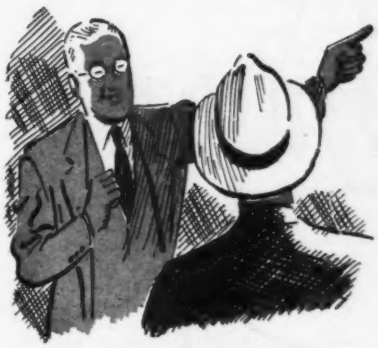
Straightway Outlet Type

DOWNINGTOWN
Designers & Builders
Paper Making Machinery

"For This Job, Give Me Two Things in a Motor"

. . . said the Power Plant Engineer





"To Drive Boiler Feed Pumps, motors must first be *simple*. For example, take these three Allis-Chalmers 800 hp, 3600 rpm motors. They're 2-pole, squirrel-cage, single winding machines . . . with practically fool-proof rotors and sleeve bearings. But second, and even *more* important . . .

They've Got to be Dependable! Here's what I mean. These same motors have given us 17 years of uninterrupted service. We've had to order replacement parts for them only twice . . . at a total cost of less than $12 a year. We call that *good performance* . . . the kind we've come to expect of *all* your motors!"

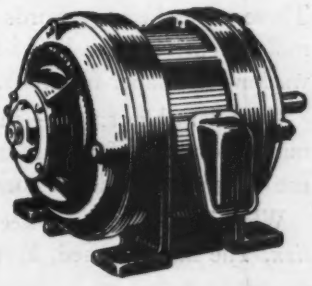
Frankly, Mr. Reader, we *are* mighty proud of our 2-pole motors. We've been developing them for high-speed requirements like this from the very earliest. Licked a lot of problems too. Like cutting down noise through better design . . . reducing windage noise with proper baffling, and curbing magnetic noise. . .

We're Getting Better Efficiencies and power factor . . . and lower starting kva, through improved squirrel-cage design. We've designed bearing brackets generously for greater structural rigidity. In fact, all the way around you can expect to find long life and low maintenance built-into our motors!

Yes, "A-C" Means Long Life in Motors!

REGARDLESS of size or type you'll be money ahead with Allis-Chalmers motors. For at A-C you can expect and *get* the same careful engineering, generous design and long-life operation that thousands of motor buyers have come to rely upon through the years.

And remember . . . while many jobs call for special or modified motors, there are *many more* that can be solved with *standard* motors . . . at less cost . . . and often with saving in time! ALLIS-CHALMERS, MILWAUKEE. A 2082

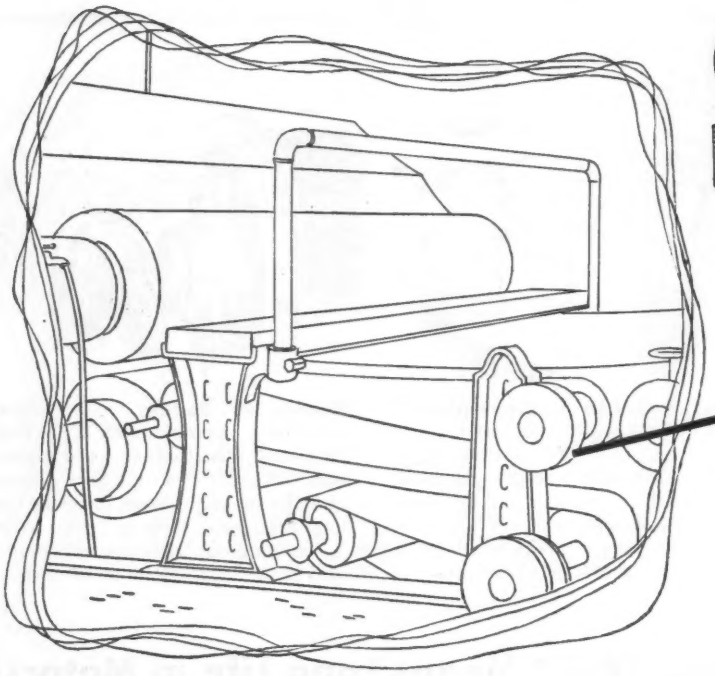


ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

Felts last 30% longer

when washed with Synoca



These were the very words of a prominent paper mill executive after he had adopted Synoca for washing his paper mill felts.

Consider that saving—in relation to your annual expenditure for felts, and figure out what the use of Synoca will do for your balance sheet.

What is more, Synoca keeps felts in *better condition*. The nap is raised, keeping the texture close to its original state throughout the life of the felt.

This new compound, especially developed for washing felts on or off the machine, has shown in regular service over a long period that it produces savings far greater than its cost. Even a short trial will demonstrate its value.

Full information on Synoca is yours for the asking.

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HALL
BUROMIN
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calgon, inc.

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HAGAN CORPORATION

HAGAN BUILDING
PITTSBURGH 30, PA.

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WHETHER YOUR PUZZLE IS PAPER CONVERTING, HEAT SEAL OR ADHESION—ARCC HAS A RESIN FOR IT

ARCC'S Scientifically Polymerized Emulsions combine the best features of aqueous and non-aqueous compounds; are stable, uniform, of controlled viscosity and low in cost.

Other formulations include solutions, dispersions, hot melts.

Arrangements for assistance from your nearest ARCC Laboratory will be made promptly upon receipt of your request. No obligation, of course.

American Resinous Chemicals Corp.

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NEWARK, N. J. MONROVIA, CALIF. CHICAGO, ILL.

PAPER · · · America's 6th Industry

PAPER CORD FOR RUG-BACKING

(NEWS ITEM: *Paper yarn is replacing jute in the manufacture of rug-backing.*)

Rug-backing yarn, made of Kraft paper with high wet strength, is being used instead of jute on a large percentage of domestic rugs. It is unusually smooth, lies flat and sheds water. This new paper yarn prolongs the life of carpet pile and keeps rugs new-looking longer.

Paper bags for vacuum cleaners . . . paper tape to record sound . . . paper cans for frozen foods . . . New uses for paper calling for new standards of lightness and toughness, new standards of quality in performance. New responsibilities—new opportunities for the Pulp and Paper Industry.

The Puseyjones Organization is now devoting itself completely to the design and construction of Paper-Making Machinery built to new high standards of speed and efficiency, and to the modernization of existing machines.

Among the new machines under construction by Puseyjones are three of the largest and fastest Fourdrinier Machines, one for book and high grade printing, one for white paper for bags, and one for Kraft liner board; also one Cylinder machine of record size and speed for the manufacture of floor covering felt. Other machines are under construction for the manufacture of M. G. Kraft specialties, facial tissues, and high grade bristols.

Puseyjones Engineers will welcome the opportunity to work with you in solving production problems.

THE PUSEY AND JONES CORPORATION
Established 1848. Builders of Paper-Making Machinery
Wilmington 99, Delaware, U. S. A.

THE SIGN OF SUPERIOR QUALITY

PAPER TRADE JOURNAL
Vol. 123, No. 5 August 1, 1946
Title Reg. U. S. Pat. Off.

Canadians Expect Newsprint Boost

TORONTO — Some observers see the newsprint price investigation proposal of Representative Sikes, of Florida, as an attempt, backed by the publishers, to block a further increase. Canadian mills indicated their willingness to fall in with U. S. manufacturers in holding prices pending a decision on OPA's fate, but indicated their expectation that a revised OPA would consider a price boost. Increased costs of wood, labor and freight charges have been affecting profit margins and, it is claimed, justify a higher price. Reports say that some newsprint company executives were considering an even greater boost immediately had U. S. manufacturers given the lead in raising prices.

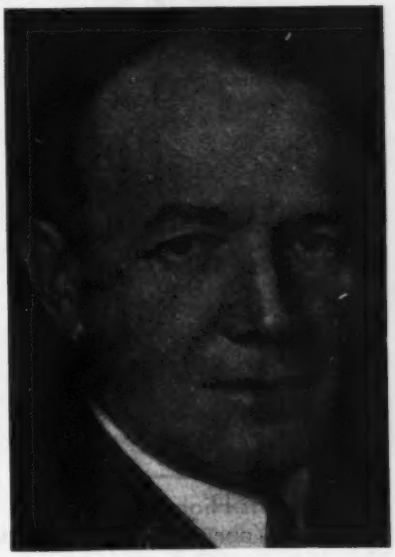
The principal support for the argument that another jump is coming lies in the fact that a price increase was under consideration by the OPA prior to its recent "vacation". Canadian mills stressed that the recent increase of $6.80 a ton was only to counteract the placing of the Canadian dollar on a par with the United States dollar and that they still expected the OPA to deal with the price problem if and when controls were revived. Analysts interpret the stress placed on the dollar revaluation as the sole reason for this increase as indicating the determination of the mills to maintain the $6.80 increase irrespective of further price control action in the United States.

It is reported here that members of parliament interested in the newsprint industry talked Thursday of expecting the revival of OPA to raise newsprint prices by about $12 a ton. This would take care not only of the temporary reduction the Canadian producers suffered as a consequence of the revaluation of the Canadian dollar, but would add an amount even greater than the $4 rise projected before the cessation of the OPA. The extra amount in the increase is asserted to be in compensation for an agreement by producers to fix the price for a year.

Rossiter Joins Gair Board

At a meeting of Robert Gair Company, Inc., board of directors held on July 23, 1946, Ernest Rossiter, president of Southern Paperboard Corporation, was elected a director of the Gair company, succeeding Edward K. Bachman.

De-Control Board Takes Over Price Regulating Powers



GEORGE W. MEAD
Named to De-Control Board

WASHINGTON, D. C.—George W. Mead, chairman of the board of the Mead Corporation, Dayton, Ohio, was named by President Truman and confirmed this week by the Senate as a member of the three-man board which is to take over price regulating functions of the OPA. With this appointment, and that of Roy L. Thompson, New Orleans banker, as chairman and Daniel W. Bell, former under-secretary of the Treasury, as the third member, the board set its program under way on Tuesday, its duties being generally described in the nickname that has been given to the group, the De-Control Board. Except for foodstuffs and some other commodities which are to be studied immediately, price regulations that were effective on June 30, when OPA was suspended, became effective again. Applications for relief and revision that were on the OPA agenda on that date, are continued under study, and late last week, with reconstitution of OPA, some revisions in paper prices were made public.

Mead's appointment to the strategic post on the de-control board was hailed with considerable satisfaction this week in industrial circles. He is known to have advanced patterns of thought which are based on the soundest of experience. He has been a member of the advisory committee of the Office of War Mobilization and Reconversion. He is widely known for his tolerant understanding of the problems of labor. He also is identified as one who stoutly refused to believe that the end of the war would bring severe deflation and widespread idleness, and has guided his policies accordingly.

Without waiting for the new board to adjust its policies, OPA late last week, on resuming its operations, made public authority for a list of price rises that has been under consideration when its operations were interrupted.

Manufacturers have been given higher ceiling prices for groundwood specialty papers when sold in sheeted form. The increases, effective July 26, amount to five cents per hundredweight for the actual sheeting operation, with increases ranging up to 50 cents per hundredweight allowed in the addi-

(Continued on page 22)

Warrensburg Adds a Wing For New Paper Machine

WARRENSBURG, N. Y. — Excavation was started this week on the construction of a new addition at the Warrensburg Pulp & Paper Co. which will be used in housing another paper machine. The new structure is expected to be completed in the fall and will allow of an increase in production. It is expected that the working force will also be enlarged.

NEPMA to Hold Fall Outing

BOSTON, Mass.—The Board of Directors of the New England Paper Merchants Association, Inc., has approved plans for a Fall Outing to be held Tuesday, September 17, at Wachusett Country Club, West Boylston, Mass. Tentative program calls for golf, putting contests, bowling-on-the-green, horseshoes and card games, followed by dinner at 6:30 p.m. An ample number of prizes are to be awarded to winners of the several sports. Guests, including mill executives and representatives, will be most welcome.

American Can Will Expand at Maywood

CHICAGO—The suburb of Maywood is to be the home for a new $4,500,000 expansion program which will extend the American Can Company's already big production of paper milk containers. The move will aid in increasing the over-all American Can production of flat top containers to far in excess of the billion which were manufactured last year. Not only is the company reported to be planning to utilize its Maywood construction for more milk containers but it also plans an expansion program for two eastern plants which serve the eastern seaboard cities while west coast plants at Los Angeles and San Francisco will likewise be stepped up to increase the eastern production by 15 percent and the western output of containers by approximately 50 percent. The maywood development is reported to mean an increase in the output for the Chicago and central western area of about 35 percent. Emphasis will be on the quart containers, say informants, in order that dairies may package the largest possible volume of fresh milk. Pint and half pint containers will be produced in increasing volume as the second step in the big 1946 program.

Tissue Mills Strike Is Deferred Temporarily

HOLYOKE, Mass.—The management of the American Tissue Mills has taken action in cooperation with Eagle Lodge of Papermakers, which has temporarily called off a strike. Wage demands were not met by the management but union officials, while reluctant to discuss what temporary arrangement had been made, said the arrangement was good only until a special meeting of employes could be called. At that time the ultimate in wages agreeable to the management will be settled upon and if not accepted by the workers the date for a walkout will be settled.

The workers have asked for an increase of 12 cents per hour and the management thus far has been willing to give but eight cents per hour.

Nekoosa Grants Aid To Build Homes

PORT EDWARDS, Wis.—Thirty applications had been received up to last week by the Nekoosa-Edwards Paper Company for company aid to employes building new homes here and at Nekoosa. They were filed with C. A. Jasperson, who is in charge of the plan.

The company is spending about $9,000 in an effort to ease the critical housing shortage for its employes. It offered 30 contributions of $300 each in the two communities to employes who build and occupy the new homes.

Mr. Jasperson said that of the 30 applications about a third have their home under construction, while the remainder are still in the "blueprint stage." There are 15 in each community. The company is helping obtain building materials, but lumber scarcity is holding up construction. There is also a great shortage of plumbing fixtures, doors, windows, metal equipment, etc.

To Break Ground for Southern Board Mill

SAVANNAH, Ga.—H. W. Borman, assistant to the president of the Southern Paperboard Corporation, has declared that ground will be broken September 1 for the new $9,000,000 paper mill at Savannah. Meantime, Mr. Borman said, more than a score of prospective bidders on the big industrial and domestic water supply system are reported to have obtained plans and specifications. Bids are to be opened August 20.

"In view of changed conditions it is not unlikely bids will exceed earlier estimates," it was stated. "The cost for a 35,000,000-gallon daily capacity plant was estimated at $3,760,000. Advancing costs caused this estimate to be increased to $3,900,000, while some engineers believe this figure still may be low.

"A total of $4,000,000 is available for construction through the $1,000,000 contributed by the city and the sale of $3,000,000 in revenue certificates."

Gair Profits Higher For Half Year

Robert Gair Company, Inc. and Subsidiaries report for the quarter ended June 30, 1946, combined net profit of $698,942 after deducting provision of $340,000 for U. S. Federal Income Taxes, equal after Preferred dividends to 37.4 cents per share on 1,641,924 shares of Common Stock. The combined net profit for the first six months of 1946 after deducting provision of $550,000 for U. S. Federal Income Taxes, amounted to $1,106,037, equal after Preferred dividends to 57 cents per share on 1,641,924 shares of Common Stock. For the same period in 1945 the combined net profit was $393,115 after deducting provision of $107,492 for premium on the retirement of the 40-Year 6 percent Income Notes and $1,282,772 for U. S. Federal Income and Excess Profits Taxes, equal after Preferred dividends to 20.5 cents per share on 1,231,517 shares of Common Stock.

At a meeting of the Board of Directors of Robert Gair Company, Inc., held on July 23, 1946, a quarterly dividend of thirty cents (30c) per share in respect of the third quarter of the year 1946 was declared on the Preferred Stock of the par value of $20 per share of the Company, payable September 30, 1946, to stockholders of record at the close of business on September 13, 1946, without the closing of the transfer books.

Starbuck Plant to Produce Draperies

GREENFIELD, Mass. — With machinery installation and establishment of production lines nearing completion, Starbuck Manufacturing, Inc., of 294 Federal street is endeavoring to start operations on paper draperies by August 19, General Manager Daniel H. Gutermann disclosed last week. Purchase of the former T. Morey and Sons building was completed in May and preparations for commencement of operations have been in progress since that time. Gutermann disclosed publicly for the first time that the firm plans to manufacture specially printed and treated paper draperies. Previously the corporation had stated merely that it would "convert paper."

The company plans to manufacture some 7,200,000 pairs of draperies per year, Gutermann said, but "due to the present inability to obtain construction materials for the special equipment required, production will start on a smaller scale."

Officials believe that 100 persons from the Green field area will be utilized as operators when production reaches its peak. The manufactured draperies will retail for less than $1 a pair in a market already established, Gutermann said.

President of the newly established concern is H. Arthur Starbuck, a major attached to the Springfield ordnance district during the war.

"The company plans to educate young people from Greenfield in the manufacturing intricacies of this business," Gutermann said, and no plans are made to import experienced operators from other localities.

Gutermann is originally from Springfield and for the past 11 years been engaged technically in this type of business. He is a chemical and industrial engineer, and a graduate of Pratt institute with management and chemical consultant experience.

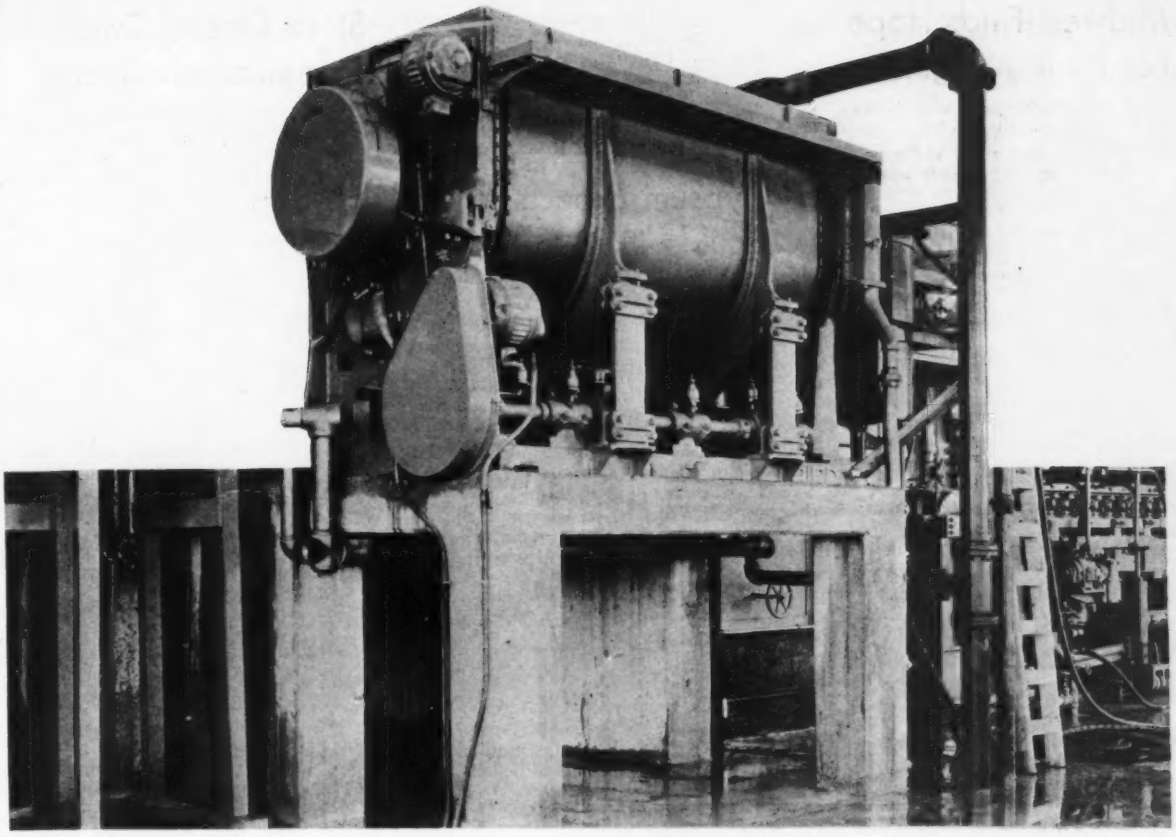
Samuel Page of Tilton, N. H., is supervisor of production. Chester Porter of Turners Falls is office manager of the concern and will handle costs and accounting, after seven years experience with the Keith Paper company.

Charles Meyers and Harry Schouler, previously with Ratheon company, will continue duties with Starbuck. Meyers will be in charge of equipment-adjustment, installation and repairs while Schouler will handle shipping and receiving.

Robert Purdy of Bennington, Vt., soon to be released from the army, will have the supervision of the ink making department.

Lyons Joins Nekoosa-Edwards

CHICAGO—L. J. Lyons, just out of active service with the U. S. Army, has recently returned to the Chicago offices of the Nekoosa-Edwards Paper Company, 208 S. LaSalle Street.



Continuous Production At Top Machine Speed Means

Big BIRD SCREENS

A modern Bird Screen installation has the capacity to deliver all the stock the paper machine can take. It does the job with fine cut plates so that the fibres are nicely combed out and individualized, uniformly free of lumps, strings and slime, exactly right for sustained high speed production without shutdowns.

Does that describe *your* screen installation? If not, better get in touch with *Bird Machine Company, South Walpole, Massachusetts.*

85% OF ALL THE PAPER MADE IN NORTH AMERICA PASSES THROUGH BIRD SCREENS

Midwest Finds Hope For Profit Margins

CHICAGO—Re-enactment of the Price Control Act in the views of midwestern authorities will make little change from that which was already taken place. The OPA had already granted price increases to many branches of the paper industry and the current pricing formula which the conference committee doped out simply gives those at the retail level the right to add to the cost of acquisition the percentage markup in effect in March of this year.

Locally, there wasn't too much hope that the new bill would do other than act as an impediment to much needed expansion of production. As one paper merchant put it "there is too much complexity about it all. There isn't enough of that definite character which will permit a manufacturer to get going in the assurance that his price and his market will be right." This sentiment was echosed by several others who saw grave dangers in a bill which seemingly was drawn together piecemeal and without regard for the fact that the economy of the country must be treated as a unit and not segment by segment.

The prices all along the market here were at ceiling peaks with only a few cases of readjustment because of OPA pricing inequities. These may be ironed out by the OPA's interpretation of the so-called Taft amendment insuring prices sufficient to cover increased costs.

Waste paper collections were fair considering the season but there was still an apparent need for an all-out drive to spur the consumer public to an appreciation of the scarcity of paper and of the need for conservation.

Conestoga Mill Turns Out First Production

NORTH GIRARD, Pa.—The first roll of paper was turned out this month at the newly-established Conestoga Paper Mill at Elk Park according to C. W. Armentrout, owner of the business. The mill will produce chipboard, a material made from waste paper secured from local dealers. It is produced in bolts 72 inches wide and three feet in diameter.

According to Mr. Armentrout, the entire production will be sold to the Erie Corrugated Box Co., to be used in corrugated cartons. Formerly a general superintendent of Perry Shipyard at the foot of Cascade St., Erie, Mr. Armentrout began negotiations for the establishment of the paper mill about a year ago.

Bob Sage Wins Gilbert Cup

NEENAH, Wis.—Bob Sage won the A. C. Gilbert cup perpetual challenge trophy for Class E scows, officials of Neenah Nodaway Yacht Club announced July 25. Victory in the final race of the three-course series the previous Sunday won the cup for Mr. Sage and his boat, the Goly Kel. Other contenders for the cup were Joe Sensenbrenner, skipper of Brother F., and Charles Shepard, skipper of S. T. 37.

Gypsum Expects to Double Its Output

BUFFALO, N. Y.—Disclosing that by 1947 it will have "about twice its prewar production capacity," the National Gypsum Company of Buffalo reported net earnings of $1,727,218 for the first six months of 1946 compared with $519,559 in the same period of 1945. Sales for the first six months were 15% above the 1945 period, President Melvin H. Baker reported.

Mr. Baker said doubling of production capacity will result from the acquisition of new plants and the expansion of present facilities. In June the company sold 275,000 shares of additional common stock for $7,700,000 to provide part of the funds for company growth.

"We have not been able to use full capacities of all plants because of shortages of labor and materials," Mr. Baker said. "These shortages have eased considerably and a higher percentage of capacity should be sustained through the last half of the year."

Directors declared the regular quarterly dividend of $1.12½ a share on the preferred stock.

Gulf States Plans to Enlarge Facilities

TUSCALOOSA, Ala. — A long range plant expansion program for the Gulf States Paper Corporation to cover at least two years and increase present capacity by at least 50 percent has been made public by Mrs. Mildred Warner, president of the company who said that Willis Penfield, a vice-president of the concern, has been placed in complete charge of the expansion program.

Included in the proposed program, which will get under way as soon as possible and involve an expense of several million dollars, is the purchase of a new paper machine, other plant equipment and the building of several additional buildings at the plant site at Holt including an administration building. The program is being undertaken, Mrs. Warner said, not only to increase the plant's production but to diversify the products and to meet the heavy demands being made for paper products.

George Fitz Retires from Nepco

WISCONSIN RAPIDS, Wis. — George Fitz of this city has announced his resignation from the Nekoosa-Edwards Paper Company's sales department, in order to take another selling job. He has been with Nepco for 13 years.

Store Closing Dates Complicate Deliveries

CHICAGO—The Central States Paper Trade Association and the Middle States Wrapping Paper Association, through secretary John L. Richey, have called the attention of several Illinois retail trade associations to the store closing schedules throughout the State which make paper twine and supply deliveries largely guess work. Mr. Richey's communication to the Illinois Federation of Retail Association, to the Illinois Retail Hardware Association and others reads as follows:

"At a recent meeting of the Illinois State Paper Merchants Association, the members throughout the State indicated a considerable amount of difficulty in operation occasioned by the policy of retail merchants throughout the State in different towns and cities of selecting a different day each week for their weekly closing date. As a result, our members are experiencing considerable difficulty in scheduling salesmen's calls and truck deliveries to retailers in the different towns and cities due to there being no uniformity in the weekly closing date. It was felt that your organization in all probability was thoroughly familiar with this problem and would probably be interested in trying to get a uniform weekly closing date in the towns and cities of Illinois. I have been requested to get in touch with you to see what if any action you have taken or contemplate taking on this subject."

At least one of the associations approached, the Federation, has said that "it would be about as easy to get all farmers to determine which day they are to plow." The Federation pointed out to Mr. Richey "the trouble that even though there were some degree of uniformity among the cities one would still meet with lack of uniformity among the merchants themselves. Each would be motivated by some personal desire over which no agreement would have any control."

Sperka's Net 58 Wins Leo Croy Trophy

MENASHA, Wis. — Harold Sperka was awarded the Leo E. Croy trophy for the lowest net score in the golf jamboree of Marathon Corporation July 20 at the Ridgeway Golf Club. More than 175 persons took part in the annual competition. He turned in a score of 108 with a "handicap" of 50. Floyd Bollman was second and Dan Dennik third for low net. The lowest gross score was a 75 turned in by Ken Dickenson, with Roy Rhyner and Earl Block in a tie for second with 79 each.

McIntosh Gets Warren Line

CHICAGO — The McIntosh Paper Company has been appointed a distributor of all lines manufactured by the S. D. Warren Company.

PLACE A double guard ON THE QUALITY AND UNIFORMITY OF YOUR PRODUCT

In production . . . in laboratory control . . . let B&A Reagents and Fine Chemicals stand "double guard" over the quality and uniformity of your product . . .

As raw materials, for example, B&A Fine Chemicals offer an extra measure of purity not obtainable in ordinary process chemicals. With them, you can build quality into your product right from the start. With them, you may find, too, that purification processes can frequently be avoided or cut to a minimum, and manufacturing costs can be reduced.

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So, when quality counts, be sure! Specify General Chemical B&A Reagents and Fine Chemicals for *every* possible operation . . . in production . . . in chemical control . . . in the research laboratory!

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Sulphite Group Seeks Outlet for Waste

APPLETON, Wis.—The Sulphite Paper Manufacturers Committee on Waste Disposal met Thursday, July 25, at the Valley Inn at Neenah and discussed the organization of permanent corporations, as well as progress made thus far in research for ways to utilize pulp mill wastes. The committee has been studying several sites for a waste reclamation plant which may cost several hundred thousands of dollars. Technical details are being worked out.

Research in the problem of finding use for sulphite pulp waste has been going on for a half dozen years or more. Much of the experimentation work has been done at and through the Institute of Paper Chemistry here. At present the research appears to point to a reclamation plant to utilize mill wastes for the production of yeast which will be useful in animal feeds and which may be sufficiently refined for use as food for humans. The yeast process utilizes the wood sugars which are found in sulphite pulp liquors.

Twelve companies, 11 of them in Wisconsin, which have a capacity of about 1,350 tons of pulp a day are represented on the research committee. A tremendous amount of raw material is thus deposited as waste in rivers, waiting for an economical method of converting it to commercial purposes. A very considerable amount of lignin remains in the sulphite liquor and experiments have been going on for years to find practical methods for its use. It has been estimated that about 2,000,000 tons of lignin and wood sugar are discarded every year by the sulphite pulp industry in this country.

J. M. Holderby of Neenah, research coordinator for the committee, has headed much of the experimentation. He has his office at the Institute of Paper Chemistry.

Marathon Corporation has made considerable progress at Rothschild in the commercial use of sulphite waste. It is one of the research group. More than a million dollars a year is said to be produced for the corporation in reclaimed chemicals and plastics.

M. M. Conway, president of the Hoberg Paper Mills, Green Bay, is chairman of the wastes disposal committee, and A. D. Hanson of Northern Paper Mills, also of Green Bay, is vice chairman. Other member companies and their representatives are:

Marathon Corporation, Rothschild, Allen Abrams, vice-president; Kimberly-Clark Corporation, Neenah, Ernst Mahler, executive vice-president, and Cola G. Parker, president, who is financial trustee for the committee; Consolidated Water Power and Paper Company, Wisconsin Rapids, Stanton Mead, vice-president, and L. E. Smith, manager of the Interlake division at Appleton; Nehoosa-Edwards Paper Company, Port Edwards and Nehoosa, C. H. Reese, general superintendent; Falls Paper and Power Company, Oconto Falls, Clayton Ewing, president; Rhinelander Paper Company, Folke Becker, president; Flambeau Paper Company, Park Falls, Leonard Kuehl, manager; Badger Paper Mills, Inc., Peshtigo, Edward Meyer, president; Marinette Paper Company, Marinette, C. A. Wilinson, manager, and the Detroit Sulphite Company, Detroit, Mich., G. N. Carleton, president. All but the last named concern are located in Wisconsin.

CPA Removes Rosin from Reporting Requirements

WASHINGTON, D. C.—Civilian Production Administration last week removed the reporting requirements covering consumption and stocks of rosin by revoking the rosin order. The order (M-387) was instituted during the war in order to conserve rosin. It was amended in January 1946, when quota restrictions were removed. The reporting provisions were retained to determine the increased demand.

This having been accomplished, CPA said that the provisions of the order no longer served any useful purpose and these have been revoked to remove an undue burden on industry.

During the war both gum and wood rosin were scarce, and in order that the war uses might be promptly met it was necessary to limit the amount of rosin used by manufacturers of paints, varnishes, pharmaceuticals, paper and soap.

Officials of CPA Chemicals Division stated that they felt the order had served its purpose well and that as a whole industry had cooperated wholeheartedly in compliance with it.

Jacksonville Paper Buys Calcasieu Mill

ELIZABETH, La.—The Calcasieu Paper Company has been purchased by the Jacksonville Paper Company of Jacksonville, Fla.

C. G. McGehee has been elected chairman of the board and president; C. G. McGehee and Tillman Cavert, Jr., vice-presidents; M. R. McGehee, secretary and treasurer; E. K. Ahrens, assistant secretary; Robert Reese, assistant treasurer. The tonnage production has been raised from 80,000 to 120,000 pounds per day.

"Y" Boys Tour Plant At Appleton Coated

APPLETON, Wis.—Boy members of the Appleton Y.M.C.A. made an educational tour of the Appleton Coated Paper Company Tuesday morning, July 23. Various phases in paper making were explained by John Reeve, personnel manager of the company. Mr. Reeve is secretary of the Y.M.C.A. board of directors and chairman of the boys' committee. "Y" girls made a similar trip the following morning, conducted by Myrna Steffen.

Crane Reopens Its Museum In Pioneer

DALTON, Mass.—The Crane & Company Museum, located on the grounds of the Pioneer mill reopened to the public last week after nearly five years of closely guarded seclusion, while the Pioneer mill feverishly fulfilled government war contracts which called for thousands of tons of paper. Armed guards who were stationed around the mill up until this week have been withdrawn and new exhibits, as well as most of the old ones, are on display, depicting the entire history of the papermaking industry.

The building which is now the museum was originally the rag room of the old Stone mill, built in 1844. The remainder of the building was torn down in 1892 and the rag room was used for storage. In 1929 the second story was removed and the interior of the building was redecorated with hand-hewn oak timbers. Both the timbers and the boards on the floor are fastened with wooden pegs instead of nails. In 1930 the museum, as such, was first opened and remained open from May to October every year thereafter until 1941.

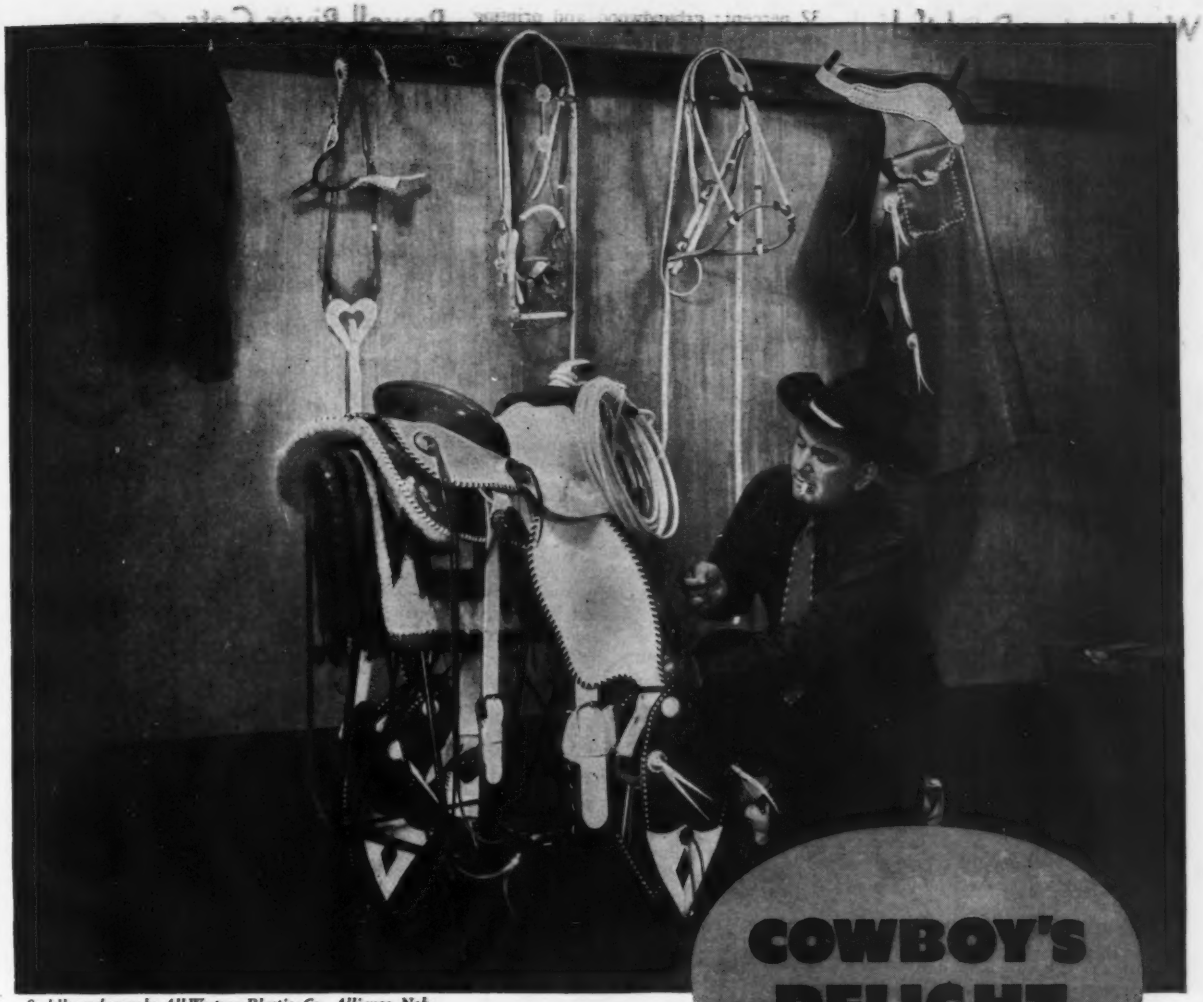
All the paper used in printing war bonds was made in the Crane Mills, and exhibits of this paper and of war bond specimens are among the new exhibits which have been added to the show cases since the building was closed to the public. Other new exhibits are the various types of invasion currency used by American troops in newly conquered lands. Paper for this currency was also made exclusively by Crane & Company. The museum as it is today is a very complete collection of exhibits depicting the history and progress, not only of the Crane family as papermakers, but the entire industry as well.

In the center of the room is a large scale model of the vat house of the first Crane Mill in Dalton, built by Zenas Crane in 1801. The wood carved model was executed by Dard Hunter and shows the figures of three workmen engaged in making paper before the introduction of modern machines. One figure represents Zenas Crane, founder of the Crane Mills, forming a sheet of paper on a hand mold.

Davis Joins Gould as Woodlands Manager

LYONS FALLS, N. Y. — James E. Davis has been made woodlands manager for the Gould Paper company. He is a graduate of the University of Maine and spent two years at Syracuse university college of forestry.

During the past 20 years, Mr. Davis has been associated with some of the largest woodlands operations in Canada and the eastern states and comes to Lyons Falls from the Maine Seaboard company where he has had charge of that firm's woodlands operations.



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THAT saddle isn't a show piece—although it very well could be. It's a working saddle—and all the gear is working gear. All are made from GEON polyvinyl materials for the same reasons that GEON is the ideal raw material for such things as shower curtains and acid tank linings, baby pants and wire insulation, handbags and upholstery.

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Washington Doubtful Of Larger Supply

WASHINGTON, D. C.—No immediate let-up in the shortage of paper and paperboard is expected, the Department of Commerce said late last week. Supplies in the second quarter 1946 were estimated at about 4,000,000 short tons at an annual rate of consumption requirements. Third quarter requirements are expected to be about the same as those in the second quarter with production somewhat lower than in that quarter.

Between 185,000 and 190,000 tons of domestic newsprint capacity is scheduled to be diverted to the output of other classes of paper by the end of this year. The change-over is already under way and the tight newsprint supply situation is not expected to improve in the near future.

An analysis of the current situation in the pulp and paper industry, prepared by the Department's Forest Products Section, cites low imports of wood pulp from Sweden in May and June as the chief reason for the anticipated reduction in third-quarter paper and paperboard output.

This situation has resulted in heavy withdrawals from wood pulp inventories by producers who depend on imported pulp. Some paper mills are already faced with the necessity of curtailing production because of inadequate supplies of overseas pulp.

Imports of wood pulp from overseas during the next few months must average about 100,000 tons monthly if United States mills are to fill current needs and build up inventories to take care of the winter months when overseas shipments are normally small, the report states.

The trend toward integrating mill and converting operations is reducing the quantities of paper and paperboard available on the open market.

Publishers are purchasing paper mills to insure themselves a source of printing paper. Paperboard mills are buying box plants or otherwise expanding their plant facilities to include this type of operation. Building board and other paper-consuming manufacturers are purchasing paperboard mills.

Moreover, there is a growing tendency for paper mills to shift from the manufacture of unprofitable or low profit products to the more profitable grades. Thus, buyers of lower grade papers are having increasing difficulty in filling their needs.

Despite the failure of supplies of paper and paperboard to equal consumption requirements, total production in the first 5 months of this year was 8 percent higher than in the comparable period of 1945, according to the report.

Increases in production of individual items for the 5-month period over the first 5 months of 1945 include: Newsprint, up about 8 percent; book papers, 32 percent; groundwood and printing specialty papers, 23 percent; fine papers, 11 percent; sanitary paper, 6 percent; and tissue papers, 21 percent.

Loss in domestic newsprint capacity resulting from diversion to other production will be compensated for eventually by 150,000 tons of new newsprint capacity which will be installed in the South by the end of 1947 or early 1948 and increased newsprint producing capacity in Canada and Newfoundland, according to the report.

Estimated consumption of newsprint in the United States in the January-May period of this year totaled 1,736,000 tons, an increase of 25 percent compared with the like period of 1945.

This increased consumption was made possible by larger imports from Canada and Newfoundland, increased domestic production, and withdrawals from publishers' stocks, the report states.

Most Canadian mills have been working at close to practical capacity during the past few months. Maintenance of the present rate of output would increase Canadian production during the second half of the year by 60,000 tons above the total of the first 6 months.

Marathon Honors Certificates For Quarter-Century Watches

MENASHA, Wis.—More than 130 members of the Quarter Century Club of Marathon Corporation of Menasha are now receiving gold watches from the company, in appreciation of their long service. Certificates were awarded during the war, when the watches were not available.

The club was organized in 1943 in the Menasha, Rothschild, Wausau and Ashland plants of Marathon, at the suggestion of D. C. Everest, president and general manager of Marathon. These four plants have 364 members in the Quarter Century Club.

Six members of the Menasha club have retired from the company's employ, with service ranging from 30 to 47 years. They are Charles F. Mason, Henry C. Dorau, Fred W. Gallau, Patrick J. Curtin, Peter J. Borenz and William Miller. Mr. Mason had the longest service, 47 years, when he retired in 1944.

Marvellum Stages Its Annual Clambake

HOLYOKE, Mass. — The Marvellum company is staging a clambake for its employes August 3 at Springdale Turn Hall. This is an annual party that before the war was held at the home of the late George Sensenay at Ipswich. Mr. Sensenay was president of Marvellum. The committee in charge of this year's bake includes Richard Fay, Milton Provost, Robert Ramage, William Schramm and Charles S. Burnett. Emil Geissler will do the catering. There will be sports events for the men and women.

Powell River Gets Suggestion Flood

POWELL RIVER, B. C. — Suggestions continue to come in to the Union-Management Committee of the Powell River Company. To date, over 1,200 suggestions for improvement in various aspects in plant operations have been considered by this joint committee. Over $3,000 has been paid out on recommendation of the committee for 148 suggestions which have been put into effect in the mill.

The committee this week authorizes payment of 13 more awards, totaling $240. The new awards are as follows:

A. Jackson $50 for the suggestion of the introduction of an I beam for convenience of changing gears on No. Seven Newsprint Machine.

H. L. Harper $50 for suggested improvement in the method of attaching U bars and Channel Rings in Drum Barkers.

L. G. Zuccatto $25 for suggestion of improvement in screening system in High Grade Pulp department.

Walter Wright $15 for suggestion of extension of Paper Car Decks.

A. Tomlison $15 for suggestion of reversal of Pumps on hot asphalt pipes at Laminating Machine.

R. R. Hoof $10 for suggested improvement to pulp flow in Front Pockets of Grinders.

John Turfus $5 for suggesting the use of standard colors for starting buttons on Steam Plant hog fuel conveyors.

L. G. Zaccatto $25 for suggestion of transfer of overflow white water to Newsprint grade deckers.

C. D. Bird $10 suggestion that wick feed lubricator be used on piston rod guides.

A. J. Innes $5 for safety suggestion in unloading sulphur boats.

Bain Calder $5 for suggestion on Ambulance Call and ramp widening at Digester House.

Lockie Campbell $5 suggestion of alteration to walk behind band edger.

T. A. Suffill $5 suggestion to paint handles of four wheel trucks for additional safety.

R. T. Nalle Named to Pennsalt Board

PHILADELPHIA—Richard T. Nalle of Philadelphia, executive vice-president of the Midvale Company, recently was elected to the Board of Directors of the Pennsylvania Salt Manufacturing Company. Mr. Nalle, who is 57, succeeds John S. Jenks, who died last March 13. A graduate of the University of Pennsylvania with a degree of Electrical Engineer, Mr. Nalle is vice-president and a member of the Board of the Franklin Institute of Philadelphia, a director of the Baldwin Locomotive Works, the Provident Trust Company, and a director of the executive committee of Henry Disston and Sons, Inc.

Anti-friction bearings last longer when protected with these Gulf Quality Greases:

GULF ANTI-FRICTION GREASE
For moderate and heavy duty service

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Ball and roller bearings are made with the greatest precision, but they require the best lubricants to insure top performance and long trouble-free service. Hundreds of plants have found that Gulf Anti-Friction Grease and Gulf Precision Grease provide an extra margin of protection for these vital parts.

BOTH laboratory tests and maintenance records in hundreds of plants prove that Gulf Anti-Friction Grease and Gulf Precision Grease are superior lubricants for anti-friction bearings. They have greater stability, a high melting point, maximum resistance to separation, and show minimum change in consistency in service.

Gulf-developed methods of compounding, employing special high-pressure kettles and mixing methods, produce these greases with a relatively smooth, nonfibrous texture.

Both of these superior anti-friction bearing lubricants are available in a broad range of N.L.G.I. consistencies. Call in a Gulf Lubrication Service Engineer today and ask him to recommend the proper type and grade for your every requirement. Or send the coupon below for further information.

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Company.....

Title.....

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Container Bids for Tomahawk Stock

WAUSAU, Wis.—National Container Corporation, Long Island, N. Y., which has obtained controlling stock in the Tomahawk Kraft Paper Company, Tomahawk, Wis., last week offered all stockholders $20.85 per share of remaining outstanding stock. It set a deadline at the close of business August 1. The offer was announced at a meeting of the company officials at the Wausau Club.

National and Bemis Bros. Bag Company, St. Louis, Mo., engaged in a price war for Tomahawk stock last month. National had originally offered $21 per share, but finally was forced to $23.25 before obtaining control of the company. Bemis offered $25 per share in the final round, but National had won control before this offer was generally circulated. Many Wausau residents were Tomahawk Kraft stockholders.

Officers of the company were reelected as follows: S. B. Bugge, Tomahawk, chairman of the board and general manager; Samuel Kipnis, Jacksonville, Fla., president; Harry Ginsberg, New York City, executive vice-president; Richard H. Laftman, Jacksonville, vice-president; Lester R. Edwards, Bradford, Pa.; vice-president in charge of wood procurement; J. L. Kipnis, Jacksonville, vice-president; Marshall M. Bernstein, New York City, secretary; H. L. Fitze, Tomahawk, treasurer and assistant secretary, and E. M. Kulas, Tomahawk, assistant treasurer.

A. P. W. Calls Bonds

A. P. W. Products Company, Inc., announced this week that first mortgage and collateral trust 6 percent bonds of Albany Perforated Wrapping Paper Company due 1948 have been called for redemption on Oct. 1, except bonds previously deposited under an extension offer of Feb. 11. The bonds called will be paid at the office of Kidder, Peabody & Co., sinking fund agent.

Canadian International Retires Bank Loans

Canadian International Paper Company has paid off its entire $15,500,000 U. S. bank loans. "With the Canadian and U. S. dollars again at parity there is no longer any reason to continue this loan," explained John H. Hinman, president. It was incurred in December, 1945, and the proceeds were used on January 1, 1946, to redeem the entire issue of Canadian International Paper Company First Mortgage 6 percent Bonds. The Company could have paid off these bonds out of funds then available but at that time it would have had to pay a 10½ percent premium for the U. S. dollars in which the bondholders were entitled to payment. Now that no exchange premium is involved, the loan has been repaid with these funds."

Mando Income Nearly Double For First Six Months

MINNEAPOLIS—Consolidated Net Income of the Minnesota and Ontario Paper Company (after provision for income tax and other reserves) for the first six months of 1946 was $1,004,414, as compared with $529,296 for the same period in 1945. Net sales for the first six months of 1946 were $14,809,317 as compared with net sales of $12,367,355 for the same period in 1945.

Consolidated Income Is Reported Doubled

WISCONSIN RAPIDS, Wis. — All directors were reelected July 24 at the annual stockholders' meeting of Consolidated Water Power and Paper Company in the main offices here. The directors then elected officers:

George W. Mead, president; Stanton W. Mead, vice-president; Walter L. Mead, vice-president; Ralph R. Cole, secretary-treasurer, and Theodore W. Brazeau. Other officers are Thomas A. Duda, controller, and Earl A. Starks, assistant secretary.

President Mead said that net income for the first six months of 1946 was double that for the same period last year and that sales are well above the 1945 mark.

He also discussed the Biron expansion program, conversion of the Wisconsin River mill near Stevens Point, and Plastics division operations. Total assets of Consolidated and subsidiaries stand at $31,364,979.

Stanton Mead talked on pulpwood supplies, saying that the stock on hand and in transit is the best in the last three years.

Dryden Redemption Profits By Altered Exchange Rate

TORONTO — Dryden Paper Company will realize a saving in excess of $79,500 on the retirement of the company's 6 percent first mortgage due on August 1. Before the equalization of the exchange value of the Canadian-U. S. dollar, holders of the $787,500 in called 6 percent first mortgage bonds were to have received $110 Canadian dollars for each $100 U. S. funds which they would have received had these bonds been surrendered in New York.

FINANCIAL RECORD OF THE WEEK

New York Stock Exchange

High, Low and Last for Week Ending July 27, 1946

STOCKS

	High	Low	Last
A. P. W.	8	7¾	7⅞
Armstrong Cork Co.	57	54	57
Celotex Corp.	31	28⅛	31
Celotex Corp., pf.	22¼	21½	21⅝
Certain-Teed Products Corp.	24	20⅜	22½
Certain-Teed Products Corp., pf.	....	....	....
Champion Paper & Fibre Co.	53	51½	51¾
Champion Paper & Fibre Co., pf.	112	110½	110½
Congoleum Nairn Co.	34½	32¾	33½
Container Corp. of America	50	45½	45⅞
Continental-Diamond Fibre Co.	13⅝	12⅝	13
Crown-Zellerbach Co.	34	32	33½
Crown-Zellerbach Co., pf.	109⅛	109⅛	109⅛
Dixie Cup Co.	42	40½	42
Dixie Cup Co.—A	57	56	56
Flintkote Co.	38¼	35	37¼
Flintkote Co., pf.	112	111½	112
Robert Gair	10¼	9⅜	9⅜
Robert Gair, pf.	20⅛	20⅛	20⅛
International Paper Co.	47⅜	45	46¼
International Paper Co., pf.	118¾	115	117
Johns-Manville Corp.	143⅛	134	138
Johns-Manville Corp., pf.	129½	119¾	123½
Kimberly-Clark Corp.	65¼	63½	63½
Mac Andrews & Forbes	40½	39¼	39½
Mac Andrews & Forbes, pf.	....	....	....
Masonite Corp.	67	62	63½
Mead Corp.	26	24⅜	26
Mead Corp., pf. A—6%	....	....	....
Mead Corp., pf. B—5½%	....	....	....
National Container Corp.	31½	29	31
Paraffine Companies, Inc.	80½	78½	78½
Paraffine Companies, Inc., pf.	110	110	110
Rayonier, Inc.	27¾	25¼	26
Rayonier, Inc., pf.	38	37⅜	37⅜
Ruberoid Co.	54½	51	54¼
Scott Paper Co.	57½	56¾	56¾
Scott Paper Co., pf.	....	....	....
Sutherland Paper Co.	46¾	43	44¾
Union Bag & Paper Corp.	36	33½	36
United Paperboard Co.	14	13	13⅜
U. S. Gypsum Co.	121	113	113
U. S. Gypsum Co., pf.	....	....	....
West Virginia Pulp & Paper Co.	45	42¼	42¼
West Virginia Pulp & Paper Co., pf.	112½	112½	112½

BONDS

Abitibi Pulp & Paper Co. 5s '53	....	....	....
Celotex Corp. 3¼s '60	105½	105¼	105½
Certain-Teed Products Corp. 5½s '53	....	....	....
Champion Paper & Fibre Co. 3s '65	....	....	....
International Paper Co. 5s '47	101⅜	101	101⅛
Mead Corp. 3½s '53	....	....	....

New York Curb Exchange

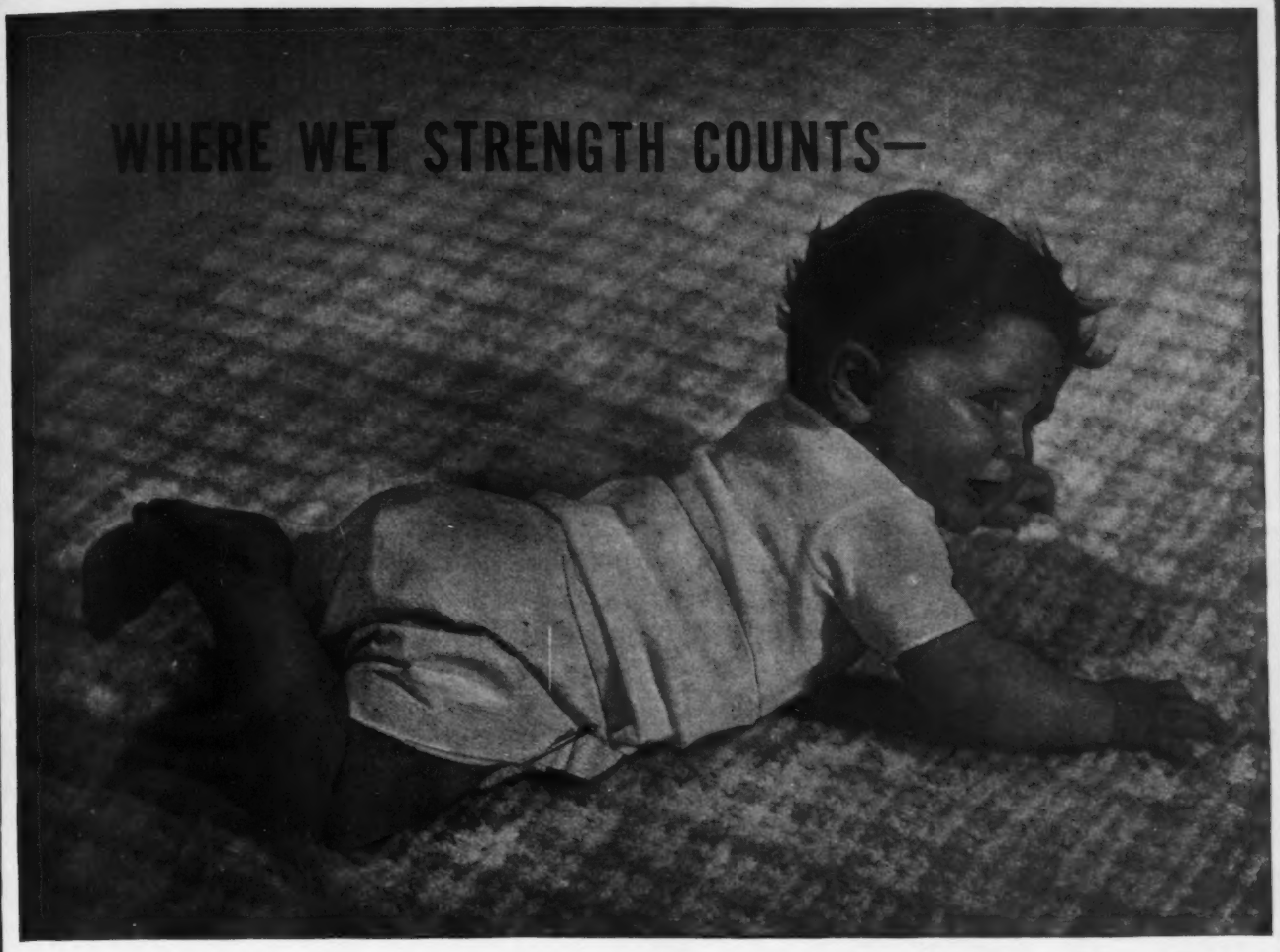
High, Low and Last for Week Ending July 27, 1946

STOCKS

	High	Low	Last
Great Northern Paper Co.	41	40	40
Hummel-Ross Fibre Corp.	16	14⅞	15¼
St. Regis Paper Co.	13⅜	12¼	12¾
Taggart Corp.	10¼	9¾	9¾

BONDS

American Writing Paper Co. 6s '61	103	103	103



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UFORMITE 467 is particularly designed for Kraft stocks by beater addition. UFORMITE 470 is recommended for sulfite, rag and ground wood stocks. Neither resin affects the color, odor or taste of paper. Neither requires any special equipment or pre-handling.

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THE RESINOUS PRODUCTS & CHEMICAL COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Blind River Waits On Timber Survey

TORONTO, Ont. — The Blind River development recently mentioned in the news, it is now reported depends on a report which cruisers now surveying the timber potentialities of the area will make. Until the report has been made and analyzed by directors of Huron Forest Products Company, it will not be known when the mill will be commenced, what its capacity will be or what it will cost.

It is known, however, that should recommendations of the timber cruisers be favorable, plans for the erection of a sulphate pulp mill, based on white pine, will be completed. Construction costs of a bleached kraft mill of the type contemplated, are understood to be about $40,000 per ton of daily capacity. The size of the proposed pulp mill will also depend to a large extent on the outcome of current negotiations between the company and the Ontario Department of Lands and Forests in respect of cutting rights on the Mississaga River watershed.

Apparently the policy of the Ontario government in demanding immediate use of all timber rights granted is having its effect on the development of northwestern Ontario forests. Other developments in the region in the last few years include the Brompton operation at Red Rock, Marathon at Peninsula, Kimberley-Clark near Schreiber and Kalamazoo Vegetable Parchment at Espanola.

There is not complete agreement among pulp and paper officials as to the advisability of all this development in the industry. Those who are not at all alarmed about the future say Canadian pulp capacity is still very far from saturation and that current orders are not being filled satisfactorily and that world demand is indicated for several years ahead at least. Over-expansion of pulp and paper capacity in Canada in the early 1920's was at a time when uses for cellulose, pulp and paper were very much fewer and much less varied than they are today, these sources contend. Moreover, competition has declined for Canadian manufacturers, since the United States has long since exhausted its pulp resources, while Norway and Sweden will never be able to operate above a maintenance basis. That leaves only Russia and Canada to meet the expanding world demand for pulp.

On the other hand, there are those who argue that the tremendous expansion in Canadian pulp and paper capacity in recent years, particularly in Ontario, is steering Canada into a very substantial pulp surplus, reminiscent of the newsprint debacle of 16 years ago. There is no question that demand for pulp has increased in wartime and that some of this new demand will stay, but there is a very live question whether new uses for pulp—for example in medical dressings, toilet tissues, artificial fabrics, and new packaging developments—will be able to fill the gap caused by virtual stoppage of production of military explosives and war material cartons. However, there is little indication in the Toronto area that there is any slackening of demand for paper boxes of all kinds ordinarily used in peacetime.

Huron Forest Products Ltd., Toronto, is headed by Hugh Mackay, of W. C. Pitfield & Company, Montreal, as president, and was incorporated in Ontario in June of this year to acquire the lumber business and sawmill operation at Blind River, between Sault Ste. Marie and Sudbury in the Algoma district, previously carried on by J. J. McFadden Holdings Ltd., J. J. McPhadden Lumber Company and the Mississaga River Improvement Company, all of which were wholly owned and controlled by J. J. McFadden, Blind River. In addition, the new Huron Forest Products Company has acquired all shares of an existing company of the same name, which was owned by the Mead-Johnson interests and the name of which is being changed to Huron Pulp & Lumber, Ltd. The old company, under Mead-Johnson ownership, had held pulp cutting rights along the Mississaga River, but had been inactive since 1943.

All the fixed assets incidental to the lumbering operations are owned by J. J. McPhadden Lumber Co., which in turn owns all shares of the Mississaga River Improvement Co., incorporated in 1894. The latter company owns all improvements on the Mississaga River, including booms, alligators, tugs, etc.

The new Huron Forest Products Ltd. is not an operating company at present. It owns all issued shares of J. J. McPhadden Lumber Co. and of the old Huron Forest Products Ltd. (name of which, as mentioned, is being changed to Huron Pulp & Lumber Ltd.) It has charter powers, however, which will enable it to carry on actively as an operating lumber and pulp company if that is thought desirable when the pulp mill is built.

Mead Corp., New York, has a substantial interest in the new enterprise but does not control it. The contemplated expenditure for the pulp mill is said to be between five and a half and six and a half million dollars. No public issue is contemplated.

One of the key figures in the purchase negotiations and in the new Huron company is J. Brookes Beveridge, Montreal, while Mead Corp. and related U. S. interests are represented by Sydney Ferguson, Mead president, and H. T. Mead, Jr., both of New York. Hugh Mackay of Montreal and Rothesay, N. B., besides being president of W. C. Pitfield & Co., Montreal underwriting firm, and director of Hugh Mackay & Co., members of the Montreal Stock Exchange, is also a director of Donnacona and Rolland Paper Companies.

Bag Shortage Affects British Columbia

VANCOUVER, B. C.—Paper bag shortages are being felt throughout British Columbia. Merchants in many cities have announced, through newspapers, that in the near future customers may have to bring paper bags to the stores or carry shopping bags if they hope to secure supplies. In Nelson, B. C., several storekeepers announced that ten-pound bags were unobtainable and that all sizes in paper bags and wrapping paper were reduced to almost zero.

Paper companies in Vancouver state they have received wartime prices and trade board directives ordering them to cut their distribution of wrapping paper by from 10 to 20 per cent on previous figures.

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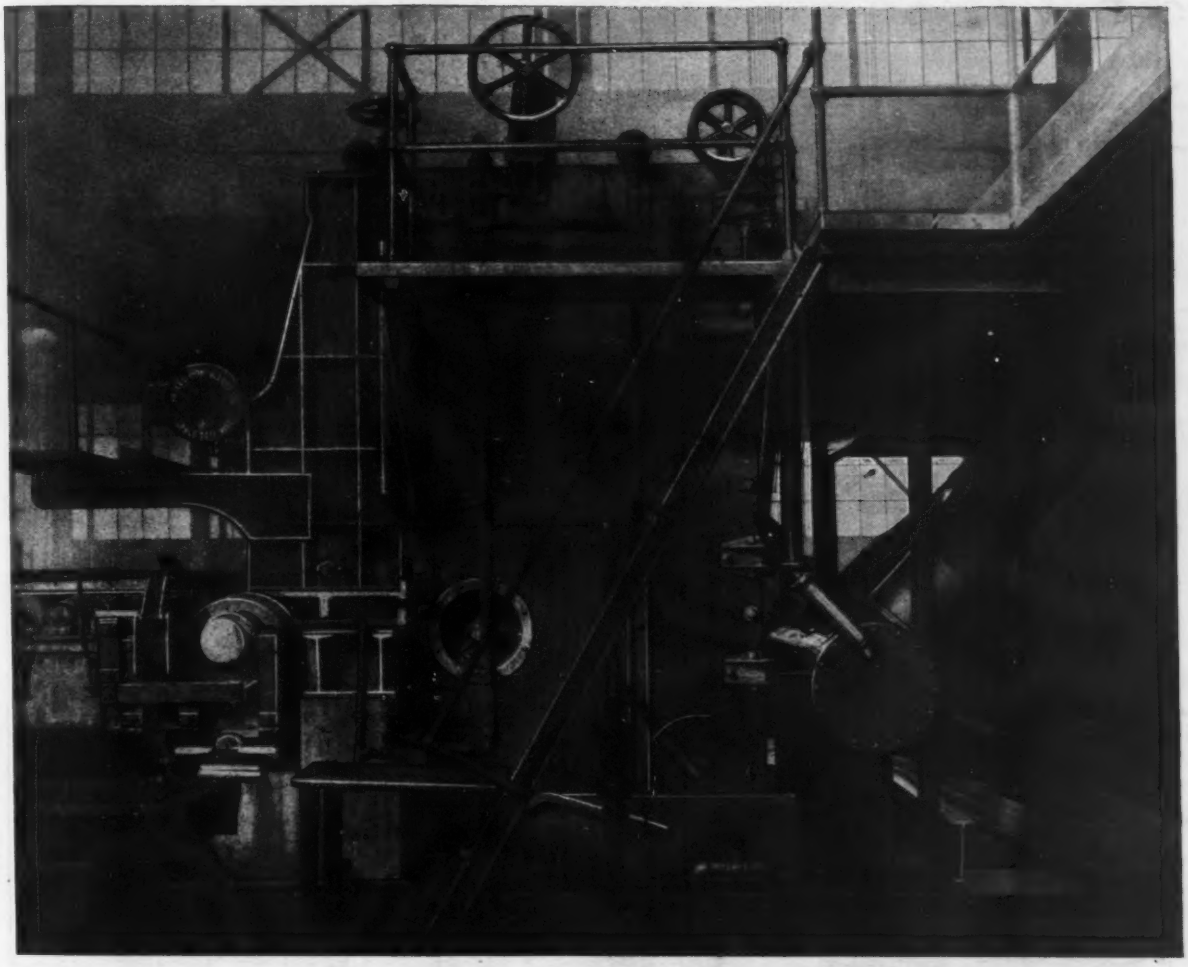

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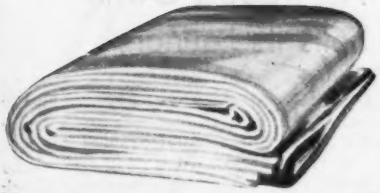
CASTLETON-ON-HUDSON NEW YORK



The finish of a sheet of paper or board begins when it is *formed*—on the wet end of the machine. The slightest unevenness in the surface of the felt results in uneven removal of water and leaves its own imprint on the surface of the finished product.

IT TAKES A COCKLE-FINISHED FELT TO MAKE A SMOOTH FINISHED SHEET

One of many reasons why manufacturers of high grade paper and board prefer Hamilton Felts is because Hamilton Felts remove water evenly and leave no impressions to be ironed out at the driers and calenders.

After it has been shrunk and fulled every Hamilton Felt is gently combed by a million needle-pointed cockle burrs (teasels) which free the matted fibers and *fluff* the nap until every square inch of its surface becomes an even and resilient cushion for the speeding web. Less heat is needed at the driers. No impressions mar the smoothness of the finish.

From the thinnest tissue to the heaviest board there is a Hamilton Felt that will do your work better, faster and at lower cost.

SHULER & BENNINGHOFEN, HAMILTON, OHIO

Miami Woolen Mills

Hamilton Felts

Established 1858

De-Control Board Takes Price-Regulating Powers

(Continued from page 7)

tional charges permitted for trimming, packing and sealing sheeted papers.

No increases are allowed in the ceilings for groundwood specialty papers sold in rolls except in the case of supercalendered papers, where the base price ceilings are raised 15 cents per hundredweight to bring them into line with the base ceilings for similar supercalendered papers.

This action is to have limited application as less than 10 percent of groundwood specialty papers are normally sold in sheeted form. The action, however, is designed to encourage manufacturers to sell in sheets when so desired by customers. Complaints have been made that manufacturers in some cases are refusing to cut the papers into sheets, thus requiring customers to pay converters for the sheeting operation, as well as trimming and packing, invariably at higher prices than normally charged by the original manufacturers. The Groundwood Specialty Paper Industry Advisory Committee pointed to the higher costs being incurred for these operations and urged the increases granted today as a means of encouraging manufacturers to perform these operations.

Groundwood specialty papers, which are used for a variety of purposes, are sold by manufacturers to printers and paper merchants. Sales by printers are at present suspended from price control. Prices for small quantity retail sales of these papers to the public will not be affected by today's increases, which amount to negligible proportions when applied to the individual small amounts normally sold at retail.

Manufacturers' ceiling prices have been increased four percent for paperboard used in making shipping tags, file folders and related items, and increased nine percent for paperboard used in making milk bottle caps, drinking cups, trays, plates and pails, butter cartons and similar food container items. These paperboards are sold generally to paper converters who make them into the various industrial items. The ceilings of converters for the finished products are not changed by this action.

The increases for paperboard manufacturers, effective July 26, are $6 a ton for the tag and folder paperboard, and $10.50 a ton for the food container paperboard. These amounts may be added to existing ceilings, which generally were the manufacturers' prices in the period October 1940 to October 1941. Where individual adjustments have been allowed previously, manufacturers have the option of continuing with their current ceilings or using their former unadjusted prices plus today's increases.

OPA said that this action was taken to help maintain supply of these paperboards. Studies of firms accounting for 90 percent of the production had shown that a majority of the output was being sold at a loss. This was causing a tendency among manufacturers to switch to other types of production, which, in turn, was causing buyers to turn to other and more expensive substitutes.

Higher costs for labor and materials, notably woodpulp, were preventing manufacturers from covering their costs on a major portion of production, OPA said.

Temporary differentials allowed manufacturers February 19, 1946, for producing kraft wrapping paper in sheets and counter rolls will be continued in effect indefinitely. The differentials, which generally amount to 25 cents per hundred pounds, had been scheduled to end July 1, unless further action was taken. OPA said that the differentials were accomplishing the purpose for which they were intended, namely to cause manufacturers to produce more of this paper in sheets and counter rolls, and thus they were being continued indefinitely.

Increases ranging from $2 to approximately $7 a ton have been allowed in manufacturers' ceiling prices for five grades of paperboard.

The increases, effective July 26, are $2 a ton for pulp lined boxboards; $2.50 a ton for cream faced gypsum liner, and approximately $7 a ton for jute liner, bogus corrugated medium and chestnut corrugating medium.

At the same time, increases ranging from $6 to $15 a ton are granted in the differentials allowed for slitting narrow rolls of boxboards; for finishing and packing solid bleached boards and bottle cap, cover and lid stock, and for sheeting milk bottle stock. This action is designed to encourage manufacturers' finishing room operations, and avoid additional costs to industry buyers for getting these operations done outside.

Box manufacturers, who buy these paperboards from original manufacturers will be able to pass on today's increases to their buyers, generally industrial firms which require the finished boxes for use as shipping containers. In the case of gypsum liner, the increase will be absorbed by gypsum board manufacturers.

A third action today prohibits sales to manufacturers of corrugated and solid fibre containers of different papers labeled as imitation kraft wrapping paper, bogus wrapping paper, beaming paper and similar grades, in rolls above 18 inches in diameter, at prices in excess of ceilings established for sales of paperboard in rolls to such buyers. OPA said that some manufacturers were evading the ceilings for paperboard sales by making papers resembling paperboard into larger rolls than normally run and charging the higher ceilings obtained for such papers when sold in small rolls.

Norwood's Owner Sells Its Foundry

NORTHAMPTON, Mass.—The foundry of the Norwood Engineering company was sold late last week for a price "between $50,000 and $75,000," it was reported by Edward Krock, one of the new owners of the company. Krock said that a group of "Worcester people" bought the foundry and will operate it locally.

He also said that negotiations are under way for sale of the remainder of the company and that the Florence citizen's committee, making a community-wide drive to raise money to purchase the plant, has his preference and may have the plant "for about the liquidating cost." The price named by Krock is $330,000.

It was reported from other sources but not confirmed that litigation is imminent and that the legal tangle in which the company finds itself at present may end up in the courts. One of the company's many creditors is reported considering attachment proceedings to prevent the removal of valuable machinery.

Krock told newspapermen that the "last straw" that led to the shutdown of the Florence concern was the fact that the employes of the foundry voted at a National Labor Relations election to have the American Federation of Labor as a bargaining agent.

Krock, associated with his brother in the liquidation business and also in the Florence concern, declared it was the primary intention of the new corporation to take over the Florence plant, to rehabilitate it and run it for investment purposes.

He declared that a number of things, including "lack of raw materials," led to the decision to shut down the plant, but he stated that the "last straw" was when the foundry employes voted 16 to 3 to have the AFL represent them.

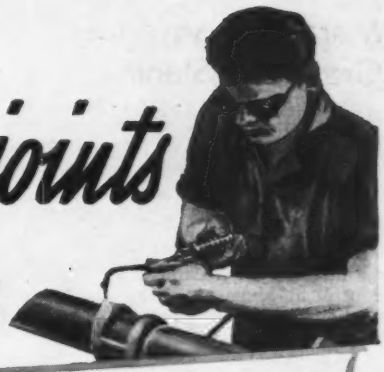
He explained that prior to the election he had indicated to the employes that this was a new type of business adventure for the corporation and he asked the corporation be given time to establish itself before any union came into the plant.

He also stated that he informed the foundry employes prior to the election that he would give them everything they could obtain by selecting a union at this time. He contended that the employes in this particular division of the concern were being paid better than the prevailing wage per hour.

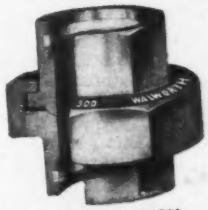
He said the concern was "in a bad way" when he took over and he brought in a special engineer to redesign the plant. He said they had some $80,000 work of work in process with orders totaling about $230,000 on the books and that some orders hadn't even been placed on the books. He said that of this about $120,000 was for paper machinery. He said the concern had spent about $118,000 on machinery, repairs and installation since the new owners had taken over.

Leakproof SILBRAZ* *joints*

IN COPPER OR BRASS PIPE



with WALSEAL* fittings, flanges, valves



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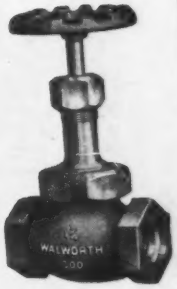

WALSEAL GLOBE VALVE

WALSEAL CROSS

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This illustration shows only a few of the many Walseal valves, fittings, and flanges made by Walworth.

Silbraz joints are the strongest joints that can be made on brass or copper pipe or tubing They cannot creep or pull apart under any temperature or pressure which the pipe or tubing itself can safely withstand.

Silbraz joints are easily made with an oxyacetylene torch. When alterations to the line are necessary, Silbraz joints can be taken apart by reheating with the torch The Walseal valves or fittings used for making Silbraz joints may be re-used in the same or a new position. Enough alloy usually remains in the insert groove of the valve or fitting to permit a second Silbraz joint to be made, without the necessity of inserting additional alloy.

Walseal valves, fittings, and flanges for making Silbraz joints are a modern development of the Walworth Company—manufacturers of valves and pipe fittings for more than a century. For detailed information about Walseal products, write for Circular 84. For information on Walworth's complete line of valves, fittings, and pipe wrenches write on your company letterhead for a free copy of Catalog 42.

*Registered trade marks

One-Piece PIPE LINES

The above illustrates the details of a Walseal tee and Silbraz joints. The center port has been cut away to show the ring of silver brazing alloy which is inserted by the manufacturer in the ports of every Walseal product

The right-hand port has been cut away to show the penetration of the alloy after the pipe and fitting have been silver brazed.

The left side of the tee shows the fillet of silver brazing alloy which completely encircles the pipe at the juncture of pipe and fitting—indicating that the Silbraz joint is completed. Because the brazing alloy penetrates both pipe and fitting, the resulting Silbraz joint actually makes the pipe and fitting into a one-piece pipe line.

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Marathon Advances Graebner, Staniak

MENASHA, Wis. — Appointment of W. H. Graebner as resident manager in charge of production at the Menasha plant of Marathon Corporation was announced July 23 by Roy J. Sund, manufacturing vice-president. Mr. Graebner, who has been with Marathon for 19 years, most recently as director of technical service and control at Menasha, will be in charge of the waxed paper, carton, parafilm, paper mill and refinery departments.

John Staniak has been appointed general superintendent at the Menasha plant. He has been with Marathon for 36 years and has served in various administrative positions in the production department.

L. E. Simerl will take over Mr. Graebner's former activities as acting director of technical service. He is a graduate of the Institute of Paper Chemistry at Appleton with several years of experience in the paper industry. He was recently discharged from the army with the rank of lieutenant colonel, after four years in the chemical warfare service.

Container Aids Institute of Design

CHICAGO—The Container Corporation of America has contributed $25,000 to the building fund of the Institute of Design of which Walter Paepcke, Container chairman, is also board chairman. The building fund will be used in connection with a drive for $350,000 for the purchase and rehabilitation of the former Chicago Historical Society building at 632 N. Dearborn Street, according to Mr. Paepcke.

Fort Wayne Earnings More Than Trebled

CHICAGO—The Fort Wayne Corrugated Paper Company, whose stock has caused a lot of favorable comment and interest in the Chicago area, last week reported a net income of $563,967, equal to $1.94 a share for the first six months of 1946. This compares with $163,835 or 74 cents a share in the corresponding period of 1945. E. L. Rich, treasurer, said in the semi-annual report of the Indiana concern that the company now has the largest backlog of orders in its history and faces excellent prospects for the remainder of the year. Dividends declared and paid in the first half of 1946 were 50 cents a common share, against 30 cents in six months to June 30, 1945. The actual shares of the company have increased from 220,360 to 282,071 as a result of continuing conversion of holdings by preferred stockholders. The current conversion price is at the rate of $18 a share of common, according to the report.

Murdock to Direct Japan Paper Mills

ASHEVILLE, N. C.—Harold R. Murdock, of this city, a former director of research for the Champion Paper & Fibre Company, has been chosen for the key post in a long-term job of building economic stabilization for one of Japan's major industries. The War Department has named Mr. Murdock as controller of the post-war development of the paper industry. Informed sources said he was chosen for this post because of his record as an outstanding authority on pulps and paper research.

As chief of the pulp and paper branch of the MacArthur commission, Mr. Murdock will be in control of 100 pulp and paper mills in the Pacific area.

It was pointed out that Japan has long been famous for the paper produced there, and Mr. Murdock is said to feel that an industry so obviously incapable of conversion to military aid, will be free of many of the military restrictions on some of Japan's industry. In fact, it is the belief of the engineer that this is one industry that will be encouraged to expand.

Mr. Murdock said he expects to be abroad a number of years in the completion of this assignment, but plans to return to Asheville and re-open his office as consulting chemical engineer.

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They are clean—last longer—require less maintenance and handle stock faster.
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Compromise May Save Eau Pleine Reservoir

WISCONSIN RAPIDS — After George W. Mead, president of the Wisconsin Valley Improvement Company, Wausau, Wis., and president of Consolidated Water Power and Paper Company, this city, announced that all plans had been dropped for construction of the Little Eau Pleine reservoir, the chairman of the Wood County Highway Committee, announced a compromise which he indicated would be acceptable to the county and the Improvement company.

Mr. Mead explained Wednesday, July 24, that the decision to drop the project was made necessary because the county board of supervisors had refused to approve relocation of a five-mile section of County Trunk H in the town of Milladore. The compromise proposal was made Friday, July 26, by Edwin J. Haas, committee chairman, who conferred with members of his committee with officials of Consolidated.

Mr. Haas said that under the compromise, only two miles of the section in question would be relocated, and that final details would be worked out July 29. The board was to act on it the following day.

The new plan entails more expense than originally contemplated, but approval by the Improvement company is expected.

In his announcement that the project would be dropped, Mr. Mead said:

"Despite years of study and planning, the Improvement Company is not going ahead unless the Wood County board should reconsider its action. It was the hope that construction could begin this summer, that it could be completed in 1947 and the large lake filled in 1948."

The Wisconsin State Planning Board in a 1938 bulletin on "The Proposed Wisconsin-Fox Rivers Development Plan," termed the project "highly in the public interest," and said that the "entire future development of the Wisconsin river below Knowlton village hinges upon this reservoir."

"Supervisors of Portage and Marathon Counties, which stand to gain less than does Wood in hydroelectric development and increased employment, honored Improvement Company petitions to vacate or change certain roads, but the position of the Wood County Board in insisting that County Trunk H remain in its present location rather than a mile to the south makes the entire project unsound economically because of the great expense which this requirement would involve," Mr. Mead said.

He added that the Improvement Company had come to this conclusion after a thorough recapitulation of the proposed reservoir, which had been made practical only recently by water lifting pumps as conceived by W. F. Thiele, chief engineer of Consolidated. He stressed that land owners affected directly had been assured they would be compensated for any damages.

The project was to have cost about $2,500,000 and would have created a lake 9½ miles wide and 20 miles long, covering 22,500 acres of flowage land, with the entire southern portion of the western shoreline located within Wood County. The reservoir, which was to have been named in honor of Mr. Mead, would have been the largest man-made lake in Wisconsin, more than doubling the water storage capacity of the Improvement Company, now about 17 billion cubic feet, and increasing the power generating capacity of the river by 49 percent.

Between 500 and 600 men were to have been employed on a round-the-clock basis to construct a dam 16,100 feet long, 270 feet wide at the base, and 12 feet wide at the crest.

The State Planning Board said that the project would create more power, add employment, improve sanitation, navigation and recreation on the river. It also brought out in the report the fact that the Improvement Company already has done much to reduce flood damage and that the new reservoir would increase this public service. The company now operates 22 reservoirs in the upper Wisconsin area.

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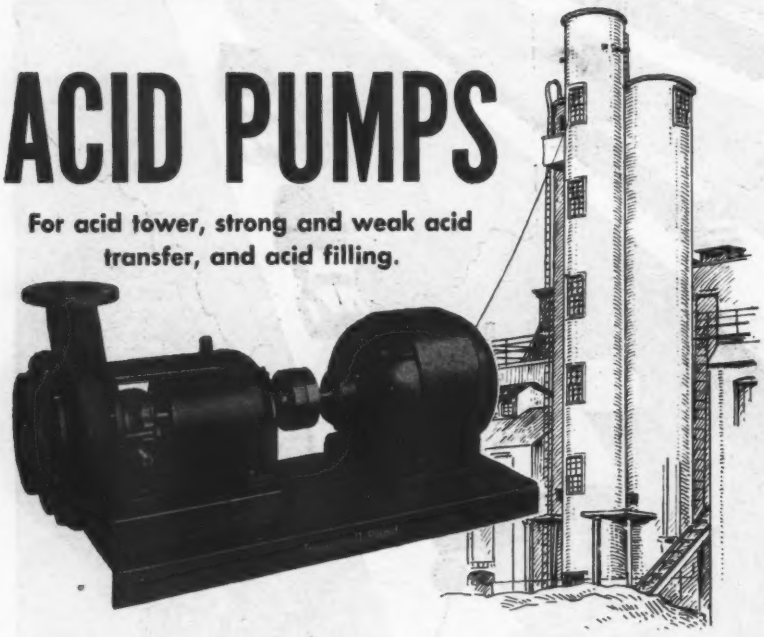
For acid tower, strong and weak acid transfer, and acid filling.



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★ Large oil-lubricated ball bearings —assure perfect shaft alignment and long life.

★ Easy to dismantle—no need to move driver or disconnect discharge piping.

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OBITUARY

Chester R. Morse

STEVENS POINT, Wis.—Funeral services were held here Thursday afternoon, July 25, for Chester R. Morse, 42, mill manager of the Wisconsin River division here of the Consolidated Water Power and Paper Company. Mr. Morse died Tuesday morning, July 23, at St. Michael's hospital, after having become ill suddenly the previous night in the office of the mill to which he had returned to do some work. He was talking with some of the men in the mill when he was stricken, and they carried him to his home across the road from the mill after he had collapsed and become unconscious. Death was attributed to a cerebral hemorrhage, and he did not regain consciousness.

Mr. Morse was born February 4, 1904, at Wautoma. He graduated from the high school there, and attended the University of Wisconsin and later the Stevens Point Business College. He took a position in the bookkeeping department of the Wisconsin River Paper and Pulp Company, receiving advancements until he became mill manager several years ago. He continued in this position when the company was acquired by Consolidated.

He was active in war work, serving as co-ordinator of the Portage county civilian defense unit and as chairman of the committee on industry for the war savings staff of Portage County. He was a member of the Elks Lodge, the Kiwanis Club and the Izaak Walton League. Until about three months ago, he was chairman of the housing committee of the Stevens Point Chamber of Commerce.

The widow, a son, three brothers and a sister survive him.

Frank M. Davis

BUFFALO, N. Y.—Frank M. Davis, secretary-treasurer of the National Gypsum Company, died July 26 of a cerebral hemorrhage suffered in his home here. He had recently returned from a vacation and had remarked to associates that he was feeling in the best of health.

When National Gypsum was formed in 1926, Mr. Davis joined it as assistant to the president. In 1929 he became secretary-treasurer. He organized the Buffalo Control of the Controllers Institute of America and was its first president. His wife and a son survive.

Ellsworth M. Rust

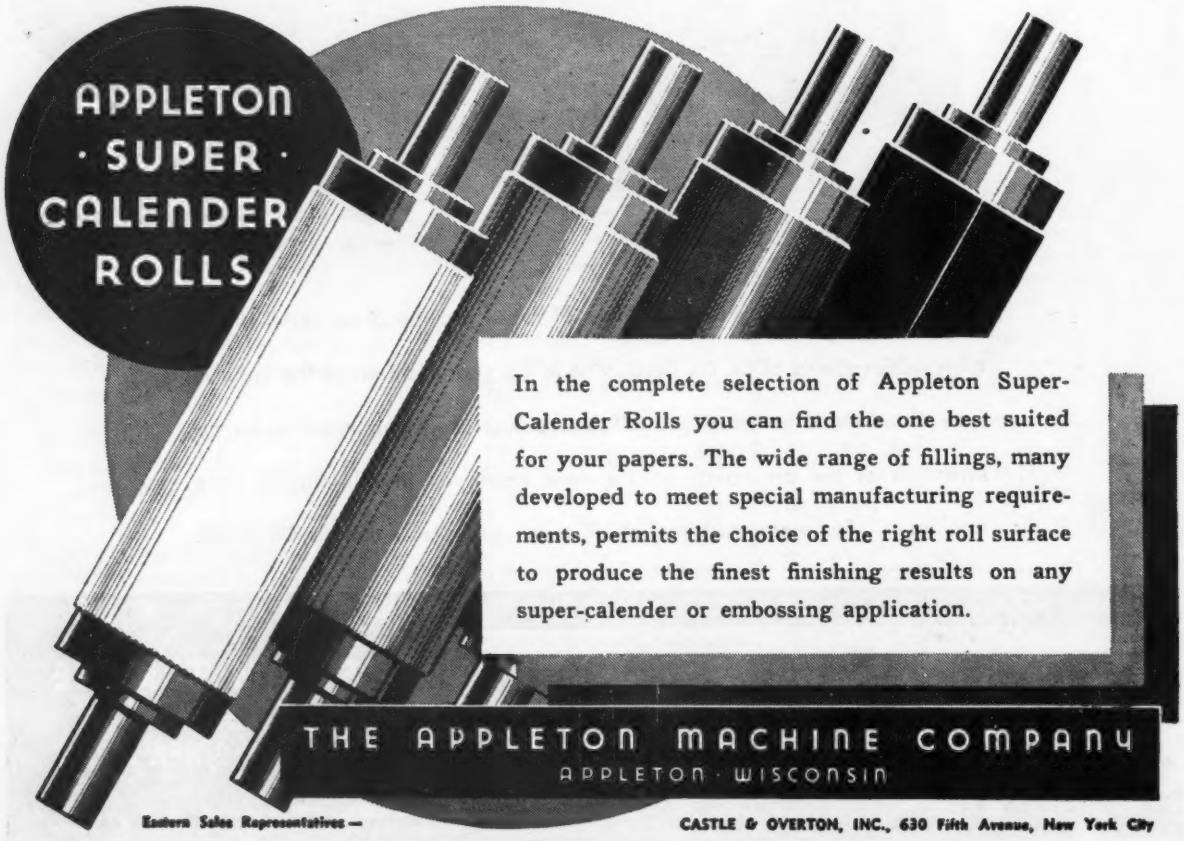
Ellsworth Marshall Rust, 67, vice president of the Rust Engineering Company, died at his Leesburg, Va., home on July 24. Mr. Rust was the son of Col. Armistead S. Thomson Mason Rust and Ida Lee Rust. He received his education at Virginia Military Institute.

In 1905 with his brothers, E. J. Lee Rust and S. Murray Rust, he founded the Rust Engineering Company of Pittsburgh, Birmingham, Washington, D. C., and New York. He has been continuously connected with the company as vice president. He was also vice president of Rust Furnace Company, Pittsburgh, Pa., and the Boliver Clay Products Company, Boliver, O.; and president of Woodbridge Clay Products Company, of Woodbridge, Va. He was treasurer of the Associated General Contractors of America for many years.

Mr. Rust is survived by his sister, Mrs. Ida Lee Follett and his brother, S. Murray Rust of Leesburg.

Angus D. Macaulay

SPRINGFIELD, Mass.—Angus D. Macaulay, 76, vice-president and secretary of the Phelps Publishing company, one of the oldest licensed chief stationary engineers in Massachusetts and chief engineer of the Collins Manufacturing Company, North Wilbraham, and paper mills in Holyoke for many years, died at Springfield hospital last week after a short illness.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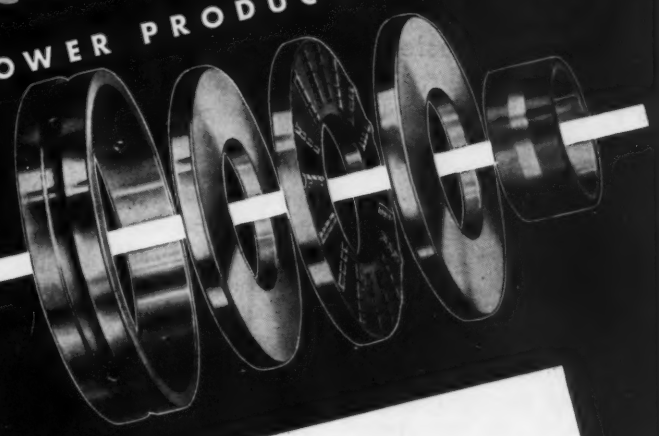

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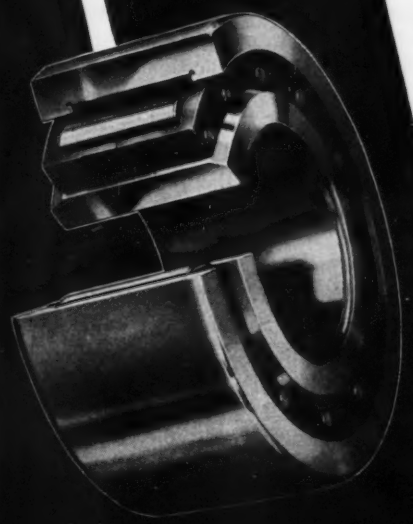

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Results with Waste

Although consumption of waste paper continues at a high level, the Forest Products Section, Office of Domestic Commerce, of the United States Department of Commerce finds the demand has eased moderately and buyers have become more discriminating about quality in view of the adequate supplies available in most regions. Waste paper receipts of 637,000 tons during May, although 16,000 tons less than the record of April, were nevertheless only 3,000 tons less than in the two preceding high months of April, 1942 and March, 1945. Receipts for the first five months of the current year were four percent ahead of those for the same period of 1945. The Section adds that while many mills are using higher pulp content furnishes than a year ago, the over-all increase in the production of paper and paperboard reflects a 2.2 percent increase in the consumption of waste paper during the five months' period over 1945. Notwithstanding the increase in consumption, mills were able to raise their inventories to a countrywide total of 400,000 tons at the end of May, the highest level attained since 1943.

Many mills are reported to be more selective lately in their purchases of waste paper, with quality an important factor in the market. As a result, some areas report a slackening in the demand for certain of the lower grades which do not meet the tests of acceptability on the grounds of content and packing. However, notwithstanding this growing discrimination on the part of consumers, it would appear that practically all offerings are still being absorbed. Corrugated stock, in fact, is understood recently to have been in strong demand.

The maintenance of a high level in the receipts of waste paper can be ascribed, at least in part, to the continuing—and reviving—efforts of various voluntary collection groups. Field office reports state that the public schools in Chicago received $250,000 during a single year from the sale of waste paper. This is a rather spectacular illustration of the mutual advantages to be derived from voluntary collection campaigns. There will, of course, be a lull in school activities of this nature during the three summer months. Some members of the consuming industry, however, are anticipating a possible reversal of the customary summer decline in waste paper collection. They look for a continuation of the prevailing high waste paper receipts throughout the remainder of the year as a result of the general increase in industrial production, and veterans entering the waste materials business.

Lest anyone be inclined to think that this is a wholly automatic result of a spontaneous series of reactions, it may be pertinent to point out that a great deal of consistent effort has gone into the production of this state of affairs. By way of timely reminder comes a report from the Midwest Consumers of Waste Paper, telling what has been done, how it was accomplished, and what still remains to be followed up in the eleven states in which this group operates. By May 1, this year, it is related, field representatives had completed contacts with all of the 384 communities included in the campaign. Of these 384 communities, 262, or sixty-eight percent, have started local campaigns. These 262 "operating" programs were the result of a total of 945 visits by field representatives to the 384 campaign cities. This means that each field representative made an average of 3 calls on each of the communities in his territory during the first five months of the campaign.

During the months of April and May, emphasis was shifted from speed in setting up programs to improvement of tonnage from local waste paper drives; to developing checks and controls to ascertain efficiency of sponsoring organizations, and to survey of dealer facilities for handling and baling paper. Administrative controls were also tightened to insure maximum efficiency in the overall conduct of the program in the field.

To better judge the operating efficiency of the program on a community-by-community basis, a questionnaire was designed to furnish pertinent information on each program in operation. Field representatives began the city by city "estimate" of efficiency about May 5. As of May 31 reports on 115 communities had been received. Initial reports average out about as follows—Eighty percent of the homes covered were serviced by the programs. About 50 percent of the business district tonnage in program communities was being collected by these locally sponsored programs. Monthly tonnage estimates of paper resulting from programs in campaign cities ran from 20 percent to 50 percent of total paper collected in each community.

Field representatives have been keeping in close touch with all mills in their respective areas. A surplus of waste paper was reported during May in a

Calendar of Coming Events

September 20-21, 1946—Annual Meeting, Southern Paper Trade Association. Hotel Buena Vista, Biloxi, Miss.

September 26-28, 1946—TAPPI General Fall Meeting, Hotel Statler, Detroit, Mich.

October 2-4, 1946—TAPPI Engineering Conference, Pfister Hotel, Milwaukee, Wis.

October 17-19, 1946—National Paper Trade Association. Fall Convention, Edgewater Beach Hotel, Chicago, Ill.

few areas in Southern Ohio, Northern Indiana, Iowa and Wisconsin. This caused a mild disturbance of programs in these areas. The rail and coal strikes also required cooperation between field representatives and mills so that dealers and sponsors could be properly advised on the necessity of suspending programs and cancelling advertising wherever indicated. The early end of these strikes relieved this critical situation. A regular mill visit program is conducted by field representatives and contacts are maintained so that information and suggestions from mill officials can be received and acted upon promptly.

Generally speaking, the group reports, most sponsors of Waste Paper Drives have been well satisfied with the returns from the sale of waste paper. For instance:

Springfield, Missouri reports an average of fifty tons per month collected by the sponsor.

The program as Dubuque, Iowa has established a record for collections in that city, even surpassing all wartime records.

A District Scout Program in Northern Illinois since April has netted sponsor $2,000 from the sale of waste paper.

Scouts in St. Charles, Illinois, report receipts totalling $1,000 since first drive in April.

All reports from field representatives seem to indicate that the waste paper inventories built up during recent weeks will suffice to see the industry through the summer "slump" period. The field staff has become seasoned and experienced in its public relations work. The committee has been fortunate in its ability to find and retain men of exceptionally high qualifications.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1946		Corresponding Weeks—1945	
June 15	104.0	June 16	91.5
June 22	106.2	June 23	90.4
June 29	105.5	June 30	88.8
July 6	61.1	July 7	47.9
July 13	95.2	July 14	88.5
July 20	*102.8*	July 21	89.8

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	86.7	89.4	90.2	88.1	89.8	91.2	80.8	88.6	90.2	95.9	95.5	91.0	89.7
1946	94.7	98.4	104.4	102.7	100.7	*104.6*							

COMPARATIVE YEARLY SUMMARIES

	1939	1940	1941	1942	1943	1944	1945	1946
Year to Date	78.6	86.9	93.4	95.7	87.7	87.3	87.5	*99.2*
Year Average	83.4	85.6	97.4	90.4	87.8	88.1	89.7	

PAPERBOARD OPERATING RATIOS†

Current Weeks—1946		Corresponding Weeks—1945	
June 15	98	June 16	96
June 22	97	June 23	96
June 29	98	June 30	96
July 6	70	July 7	62
July 13	87	July 14	90
July 20	*94*	July 21	96

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	91	95	97	97	96	96	86	90	91	97	95	85	93
1946	90	97	100	99	94	97							

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

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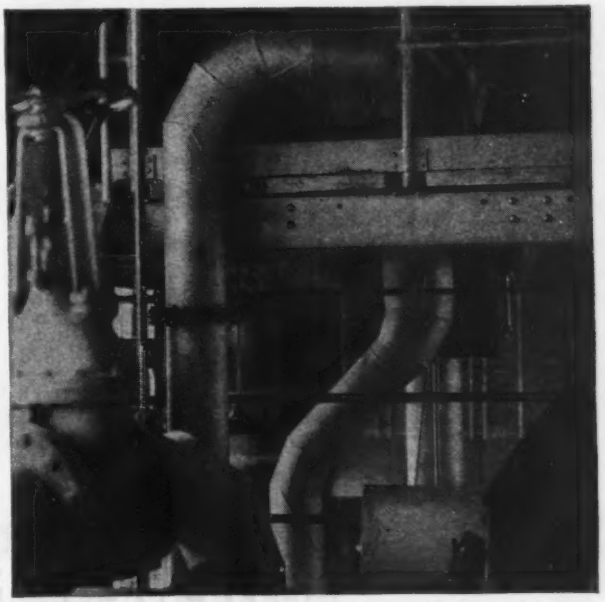

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Leather Belting on Paper Mill Machinery*

By J. Edgar Rhoads[1]

Abstract

There are a great many types of equipment for transmitting power to machines and for many purposes mechanical belt drives have proven themselves by long experience to be highly reliable and economical. Certain factors in their use deserve consideration. Some of these are frequently not given sufficient thought. An ideal belt will have great strength, high coefficient of friction, some elasticity, low stretch, and must be of ample size to carry peak loads required. It must not be too difficult to install or maintain. For paper mill service it must also be "waterproof", but slightly affected by oil, and have a reasonable amount of resistance to certain chemicals to which it may be subjected.

An important factor to be considered is bearing tension and bearing wear. With the right type of leather belt this can be reduced to a lower figure than is the case of other types of belt having lower coefficient of friction. A rubber belt has a lower coefficient of friction and this is lowered materially by water. The best leather belt will retain its full value of coefficient of friction even when it has absorbed all the water it can hold. As it starts out when new with a higher coefficient of friction, it will carry the needed load with less bearing tension and wear. Long experience in many paper mills has shown that though higher in first cost, it will transmit the needed power at a definitely lower cost per ton of paper produced.

Officials and operating men and engineers who assist them are all vitally interested in the reliability and performance of their equipment, not only on the paper machine itself, but also in the many units which prepare the raw materials for use by that huge assembly of heavy moving parts which convert the wet stock into a beautiful or highly utilitarian roll of finished goods. Every step requires the most careful planning, coordination, and constant check and follow up to maintain the quantity and quality of product desired. Few types of industry processing are more rigid in their demand for this kind of servicing if good quality and low cost production are to be maintained. Clearly, managers must have equipment which will be the last word in reliability as well as economy. Anything else would interfere with this planned steady flow of finished paper. The high overhead incidental to the type of equipment that a paper mill uses piles up at a serious rate if anything interferes with the desired rate of flow.

Most of those who have had experience with industrial production of any kind recognize that the best equipment usually is the cheapest in the long run. The old saying, "A stitch in time saves nine," is often true, and well planned servicing may save a lot of expensive headaches.

To do the job desired, the machines need constantly to be supplied with just the right amount of power. Many types of equipment for transmitting power from motors or other sources to machinery have been tried and those which have survived nearly all have some place in which they operate satisfactorily. Many will function under a variety of conditions. Usually, when efficiency, reliability, and economy are considered, one type of drive will be exceptionally good in a certain field, and it is the problem of the designing engineer to choose that which meets a specific need best. The use of flat belts to convey power from one moving shaft to another is one of the older and simpler methods and is still in very wide-spread use and acceptance because of proven performance under quite a wide variety of conditions. Where such drives are properly laid out and installed, they serve not only as dependable means of transmitting power but in a great many cases can serve as protective equipment by slipping enough to save breakage of expensive machinery when it jams.

During the war period even though there has been a great demand for other types of mechanical power transmission equipment, the use of leather belting has been extremely large and it looks almost as though it might grow further as some types of machinery users are coming back to it after having tried various methods which proved less satisfactory. Many plants in a wide variety of war work found that high quality leather belting gave them extraordinary service during the past six years, and it is of interest to note that carefully engineered leather belt drives have held a vitally important place in the production of many of the most essential products, not only munitions, but the manufacture of chemicals, steel, paper, textiles, and a myriad of other things.

Performance

This record of dependable performance must be based on factors which can be proven and demonstrated. A belt drive which depends on friction between smooth surfaces has obviously great simplicity as compared with drives which involve a lot of moving parts of metal which may wear and probably re-

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1] J. E. Rhoads & Sons, Philadelphia, Pa.

quire high skill for servicing, and are often much higher in first cost. The pulleys in a belt drive can be made of quite a variety of materials, but for larger pulleys, cast iron or steel are preferred, and for smaller ones where they can be used, such as motor pulleys, compressed paper pulleys are preferred because of having a higher coefficient of friction.

What factors are there which bear on this performance? A good flat belt will have great strength, high coefficient of friction, low stretch, a slight amount of elasticity, and must not be appreciably affected by a reasonable amount of water, machine oil, and certain chemicals or gases which may be used near it. It can only transmit power by having sufficient coefficient of friction to prevent sliding on the pulleys when maintained at a reasonable tension. When running under load the difference between the tension of the tight strand (T_1) and the tension of the slack strand (T_2) causes the driven shaft to turn. It is clear that a high coefficient of friction is a great advantage. A belt with a coefficient of 0.6 will transmit the needed power to the driven shaft with less stress on it and less pressure on the bearings than one with a coefficient of friction of 0.3. To be satisfactory, the belt must maintain its high coefficient of friction and not lose it after a short period of use. Many things have been tried on all types of belting to increase this quality. Most of them are not lasting. The best types of leather belting have the ability to retain their coefficient of friction throughout a "long service life." Usually these qualities are found in "combination" or "special tanned" leather belts.

With other materials commonly used for belting as substitutes for leather; rubber, canvas, etc., the coefficient of friction is not sufficiently high to permit the belt to be operated with a satisfactory slip of over about 1%. This severely limits the capacity to carry overloads. However, with leather of the type mentioned above, the investigations carried on years ago by Dr. R. R. Tatnall, a physicist, and later by R. F. Jones of Cornell, and confirmed by other investigators, showed that the coefficient of friction of a good leather belt actually improves when run. In one series of tests made by Mr. Jones under carefully controlled conditions, a high capacity leather belt which showed a coefficient of friction of 0.41 at a slip of 20.1 feet per minute increased to a coefficient of friction of 0.863 at a slip of 83.1 feet per minute. Coefficient of frictions as high as unity have been observed in some tests. With most rubber and fabric belts the coefficient of friction does not increase much as slip increases. When a little over 1% slip is reached, no more load can be added.

To enable the belt with inherently low coefficient of friction to carry more load, much greater tension must be applied, increasing bearing pressures, perhaps to a point that will cause trouble.

Fairly safe values for coefficient of friction may be used as follows:

TABLE I

Type of Pulleys	Type of Flat Belt: Combination or Special Tanned	Oak	Rubber
Paper	0.60	0.50	0.40
Wood	0.50	0.42	0.33
Cast iron or steel	0.40	0.33	0.27

Table II shows approximately the striking difference in capacity to carry overloads of these different types of belt at standard tension and under what might be considered normal test conditions. With high capacity combination tanned leather belts the ability to transmit overloads is fully retained even when the belt has absorbed all the moisture it will hold. Other types of flat belting do not seem to function so well under this condition.

TABLE II

Per Cent Slip	Combination or Special Tanned	Oak	Rubber
1	55	50	45
2	85	60	45
Maximum safe load	100	65	45

Application

On machines subjected to shock loads such as barking mills (old types), chippers, saws, and beaters, the ability of good leather belt to carry abnormal peaks for short periods is often of real importance. With machines having more nearly constant load, the high capacity leather belt can keep up the production even though it may have stretched enough to lower the tension somewhat. The early work of Jones and others referred to above bears this out clearly as has much practical experience.

Many users both in the paper and other industries report the life of high capacity leather belt on many types of machinery exceeds that of other types. It is well adapted to use in most of the machinery used in paper mills with the exception of places where it may be splashed with strong chemicals, particularly caustic. It has proved exceptionally good on pumps, chippers, and fans, in which places it is often used in conjunction with a pivoted motor base which makes possible very short centers and an automatic maintenance of correct tension. Many users report that it excells on paper mill drives and especially on high speed cone drives for the different sections of paper machines. Some mills have found that cone driven paper machines with the best type of modern belt drives give exceptional satisfaction and good speed control and reliability. Some of the largest and newest paper machines in the country are driven now with high capacity leather belting. For winding paper where the belt has to slip a great deal, a different type of leather is used having a low coefficient of friction. Some users have found that leather link belt works particularly well for this service.

Leather belts are easy to install and repair, and improvements in recent years in the cement and uniformity have tended to make for still greater reliability.

A pivoted motor base used in combination with high quality leather belt has proven in the last decade to be of exceptional reliability, efficiency and economy where short center drives are required. The belts will give much longer life than V-belt drives and carry overloads with less slip. A pivoted motor base insures correct tension with varying loads. In some cases, large units running up to 200 hp. and more have operated continuously year in and year out with no repairs and practically no maintenance.

This all adds up to the fact that great reliability and low cost per ton of paper from machines driven with leather belting which is carefully chosen and correctly figured for the particular conditions can be obtained.

Back Issues Wanted

Individuals wishing to dispose of their 1941, 1942 and 1943 Technical Association Papers should inform the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York 17, N. Y. A number of foreign members would like to obtain these issues.

Ground Water For Industrial Use In The United States*

By Jack B. Graham

Abstract

Many industries prefer ground water to surface water because of its constant, cool temperature and quality. Characteristics important in the industrial use of water are temperature, chemical characteristics, suspended matter, color, and quantity.

The United States may be divided into four major ground-water regions in which geology has an important bearing upon availability of ground water.

Long before the Christian Era, springs and dug wells were used as sources for domestic water supply. Because of the usual purity of spring and well water, these sources were preferred for drinking and cooking uses, whereas streams and rivers usually served for washing. It was not until early in the 19th Century that French hydrologists drilled the first deep wells *(1)*. Between 1870 and 1900, many of the artesian basins of the United States were discovered, and the development of ground-water supplies for public water works, railroads, and domestic use was greatly accelerated. Thus, by 1900, drilling techniques, hydrologic knowledge, and the discovery of highly productive areas of ground water had removed to a great extent the limitations on the use of large amounts of ground water—limitations which had in many areas prohibited the use of this resource for most purposes other than domestic use.

Today, with highly efficient deep-well turbine pumps, with relatively cheap electric power, with refined drilling and well-installation methods, and with an ever increasing knowledge of the occurrence and behaviour of ground water, this resource has been put to many new uses. By 1932, ground water probably was furnishing the domestic water supply for about one-half of the population of the United States *(2)*. In 1942 *(3)*, it was estimated that the pumpage of ground water by private industries was of the same general magnitude as that of the public water works. During the past three years, it is probable that industrial use of ground water has increased more rapidly than public supply use. The war-time demands for year-round cool, clean water for many cooling and washing processes in the manufacture of

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.

[1] Geologist in Charge of Ground Water Investigations in Pennsylvania, U. S. Geological Survey and Pennsylvania Topographic & Geologic Survey.

FIG. 1

Map of the United States Indicating the Approximate Mean Monthly Temperature of Water from Surface Sources for July and August.

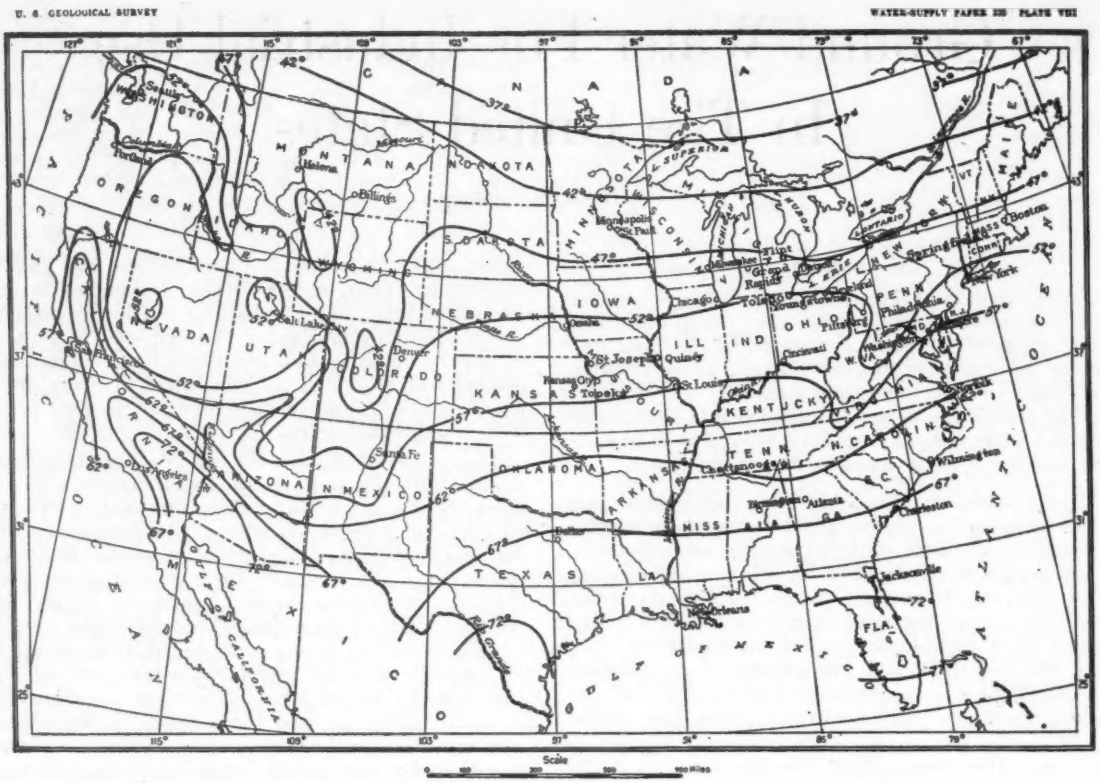

FIG. 2

Map of the United States Indicating the Approximate Temperature of Water from Nonthermal Wells at Depths of 30 to 60 Feet.

munitions and other war-essential products, and the saving of time and material by using wells as compared to developing surface-water supplies, have contributed greatly to the increased use of this resource by industry.

Water Supply Requirements of Industries

Among the water-supply requirements of industries are boiler-feed water, washing water, water for reducing the temperature of machinery and products, and water for air-conditioning and refrigeration processes. Factors which affect the desirability of a water supply for such industrial uses are temperature, chemical characteristics, suspended matter, color and quantity.

TEMPERATURE

The mean monthly temperature of surface water is generally within a few degrees of the mean monthly air temperature when the air temperature is above the freezing point. The maximum water temperature in any of the warmer months is usually from 2 to 6°F. higher than the mean monthly water temperature *(4)* (See Fig. 1).

On the other hand, ground-water temperatures remain relatively constant throughout the year. The temperature of shallow ground water at any one place is, in general, from 2 to 3°F. above the mean annual air temperature. The influence of seasonal air temperature fluctuation is not greater than 1°F., at a depth of 30 feet and at depths of below 60 feet, there is no observable effect because of changing air temperatures. There is, however, a normal increase in earth temperatures with increasing depth. In general, this increase amounts to 1°F. for each 60 to 100 feet of depth below the zone of surface influence (See Fig. 2).

To compare the annual temperature fluctuations of the two water sources, Baltimore, Maryland may be taken as an example. For any year having average or near average range in monthly air temperature, the surface-water temperature will range from about 35°F. in the winter to about 75°F. in the summer. Ground water pumped from a depth of about 60 feet will have a year-round temperature of approximately 57°F. Water pumped from a depth of 200 feet will have a temperature of approximately 60°F.

Temperature of water supplies available to industries is of importance where water is used for cooling, condensing, and air conditioning. Many of the northern industries having access to both surface and ground-water supplies use surface water for cooling during the winter months when surface water is cooler than ground water, and well water during the summer months when surface supplies usually are considerably warmer than ground water. Such practice is desirable especially wherever ground-water storage is seriously depleted during heavy summer use, and where either natural or artificial recharge with cold water during the winter is possible.

An an example of such winter recharge, Louisville, Kentucky, in 1943, was pumping about 62 million gallons a day, which, according to a quantitative investigation of the area, was 20 to 30 million gallons a day in excess of the natural recharge *(5)*. This condition was largely corrected during the following spring by artificial recharge with cold water from the municipal supply, and, at the same time, by operating the plants with water from the municipal supply. By the following summer, ground-water storage had been

replenished sufficiently by this combination of natural and artificial recharge so that an adequate supply of cold ground water from wells was available.

Chemical Characteristics

For many industrial uses, water is needed which is considered soft by ordinary standards, and in which the content of iron and manganese is low. Colored waters are usually undesirable.

Hardness is the characteristic of water that is given the most attention by industrial users. In general, the harder supplies come from ground-water sources and the softer supplies are surface water. In 1932, a study of the larger public water supplies in the United States disclosed that, for the supplies studied, the weighted average hardness of ground water was 191 p.p.m., whereas the weighted average hardness of the surface water used was 85 p.p.m. *(2)*. Figure 3 is a map of the United States showing the weighted average hardness of water furnished in 1932 by public supply systems in over 600 cities.

Hardness in water used by industries is objectionable primarily for its soap-destroying and scale-forming properties. The formation of scale is particularly detrimental in boiler-feed water, although scale is frequently troublesome in heat exchange equipment, engine jackets, piping, and in any circulating system. In process work, hard water may form scale and sludge in the water system, and if the water contacts the products manufactured, damage may result from precipitates formed on the material being processed, as may be the case in the dyeing industry.

Iron in water is objectionable for many industrial uses. Most surface waters contain less than 0.1 of 1 p.p.m. of iron. This low content is due primarily to the precipitation of iron dissolved in the water as a result of the natural aeration of surface water. On the other hand, ground water is likely to retain the iron dissolved from the rocks, and ground water with many times the amount of iron usually found in surface water is not uncommon. The occurrence of iron in ground water is erratic and may vary greatly in a single formation.

Manganese is frequently encountered in iron-bearing water and is more common in ground water than in surface water. However, few natural ground waters contain more than 3 p.p.m. of manganese. In the manufacture of some products such as white textiles and fine papers, very small amounts of manganese in the process water may be troublesome.

Suspended Matter and Color

As a rule, ground-water supplies are relatively free from suspended matter, and, in nearly all instances, can be used without filtration. Freedom from suspended matter is desirable in water used for almost all manufacturing processes.

Color in ground water is much less common than in surface water. Absence of color is important in certain industrial uses such as the manufacture of fine papers and, in some textile processes.

Quantity

Some industries require vast quantities of water. The use of ground water in northeast Florida was recently increased 30 million gallons a day by one industrial plant *(6)*. This is an amount sufficient to supply a city the size of Atlanta, Georgia, with a per capita consumption of 100 gallons a day. Industries requiring large amounts of water, and which require the constant temperature and low turbidity afforded by ground water should thoroughly investigate the geologic factors which control the storage and recharge conditions. In many parts of the country, large industrial supplies can be developed from the ground. In order that this valuable natural resource

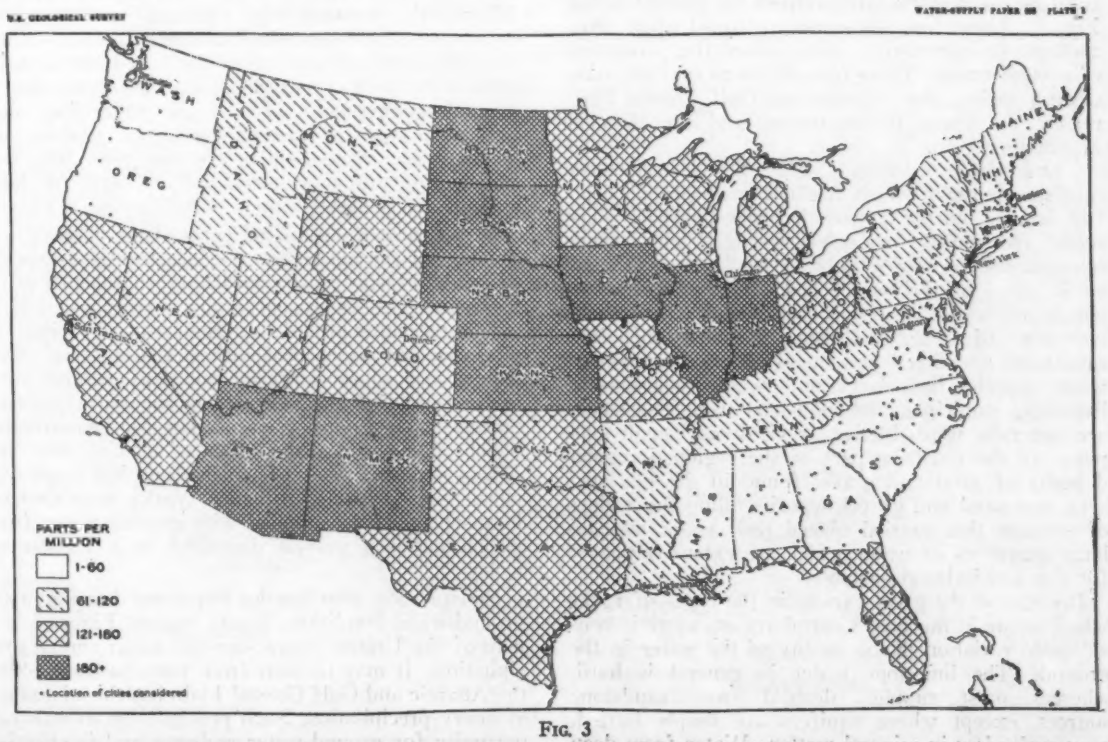

Fig. 3

Map Indicating the Weighted Average Hardness, by States, of Water Furnished in 1932 by Public Supply Systems in Over 600 Cities in the United States.

may be exploited to the fullest and, at the same time, protected against damaging overdevelopment, the ground-water geology of the country must be studied and interpreted.

Ground-Water Resources in the United States

The direct source of most ground water lies in water precipitated upon the land surface in the form of rain and snow. A part of the water which falls upon the land surface becomes runoff and is carried away by surface drainage ways. A part is evaporated from the wetted surfaces and still another part is absorbed into the soil. The proportion of water absorbed by the soil is still further decreased by direct evaporation from the soil, and by transpiration by plants, and the remainder becomes available as ground-water recharge.

The amount of water which is available as ground-water recharge in any one place is dependent upon many factors. The most important of these are the rate, quantity, and form of precipitation; the relief and slope of the land; the absorptive capacity of the soil; the nature of the vegetation; and conditions of evaporation such as temperature, humidity, and wind velocity. One of the most important of these factors is that character of the soil or rock which affects the ability of the soil or rock exposed at the surface to receive water and permit its passage to the zone of saturation. It is this zone of saturation which yields the supply for springs and wells.

It is obvious that some materials are better suited for the downward percolation of water than others. Therefore, a knowledge of the physical characteristics of the materials of the earth at and near the land surface is necessary if the ground-water conditions of a locality are to be understood.

The Four Major Ground-Water Regions

Meinzer *(7)* has subdivided the United States into four major regions with respect to ground water, Fig. 4. These four divisions are based upon broad geologic characteristics which affect the production of ground water. These four divisions are: the East-Central region, the Atlantic and Gulf Coastal Plain region, the Great Plains region, and the Western Mountain region.

The East-Central Region. The East-Central region consists of rocks which are old geologically, overlain in the northern part by glacial drift. The rocks are mostly of paleozoic age, but include some areas of Pre-Cambrian rocks and a few small areas of Triassic rocks. The area consists chiefly of a succession of sedimentary formations composed of shale, sandstone, and limestone. The sandstones and limestones furnish a great number of water supplies both large and small for domestic, livestock, municipal, and industrial use. The shales are generally unproductive or yield only small supplies. In the northern part of the region, irregular deposits of sand and gravel found in the glaciated area, and sand and gravel deposits filling the valleys of streams that carried glacial melt water, contain large quantities of water which are extensively used for city and industrial supply.

Because of the great variety in the types of rocks which occur in the East-Central region, there is considerable variation in the quality of the water in the ground. The limestone water in general is hard, whereas most supplies derived from sandstone sources, except where aquifers are deeply buried, are usually low in mineral matter. Water from deep wells in the shale areas may be salty.

The Atlantic and Gulf Coastal Plain Region. The Atlantic and Gulf Coastal Plain region is underlain by Cretaceous, Tertiary, and Pleistocene formations which are made up of clay, sand, and gravel, and limey sediments. The numerous water-bearing sand, gravel, and limestone beds furnish large supplies of water for municipal and industrial use and, in many areas, for irrigation. Pleistocene deposits are of ground-water importance in the Long Island, New York area, and along the Mississippi Valley from the mouth of the Ohio to the mouth of the Mississippi. Most of the water in the Atlantic and Gulf Coastal Plain region is of good quality, but in some coastal areas, the water is salty.

The Great Plains Region. The Great Plains region is underlain by extensive Cretaceous, Tertiary, and Pleistocene deposits of water-bearing sands and gravel in the northern portions of the area and by highly productive Permian limestones in areas of New Mexico. The portions of the region underlain by shale are relatively unproductive. The chemical characteristics of ground water in this region are diversified. The limestone waters in the southern part are hard, and, in general, the deep-seated Cretaceous sands of the Dakotas yield highly mineralized artesian water.

The Western Mountain Region. The principal water-bearing beds of the Western Mountain region are the valley-filled sand and gravel deposits of Tertiary or Pleistocene Age. Volcanic rocks of Tertiary age in the Northwest are also good aquifers.

Relation of Geology to Ground-Water Yield

The variation in ground-water productivity of the four regions is due for the most part to the physical properties of the geologic formations. As an example, ground-water province A, see Fig. 4, is one of the most productive in the United States, and this productivity can be related to the relatively high permeability of the unconsolidated sands and gravels and the cavernous limestones which underlie the region. On the other hand, province C of the East-Central region is a very poor province from the standpoint of ground-water supply, because the underlying rocks are composed, for the most part, of igneous and metamorphic rocks which are not physically well suited for the movement and storage of large amounts of ground water.

In and near the glaciated parts of the country, and in some of the mountainous areas, localized deposits of sand and gravel may yield large supplies of water to wells. The valleys of many former as well as existing streams in and near the areas of Pleistocene glaciation have been filled with sand and gravel. Such valleys may supply large quantities of ground water in areas in which the bedrock conditions are generally unfavorable. Figure 5 is a map of Pennsylvania which shows the distribution of glacial lake and stream deposits, many of which may yield large supplies. The Keystone Ordnance Works, near Geneva, Pennsylvania was supplied with ground water from glacial outwash gravels deposited in a Pleistocene valley *(8)*.

Precipitation also has an important bearing upon ground-water conditions in any region. Figure 6 is a map of the United States showing mean annual precipitation. It may be seen from this illustration that the Atlantic and Gulf Coastal Plain has the advantage of heavy precipitation. Such precipitation affords opportunity for ground-water recharge and is effective in developing solution channels in limestone aquifers.

In general, it may be said that unconsolidated sediments such as the sand and gravel formations which occur in the Atlantic and Gulf Coastal Plain, and the Pleistocene gravels of glacial till and glacial outwash usually yield large quantities of ground water to wells. In such sediments, practically all wells can be depended upon to yield water. Limestone in many areas supply large quantities of water to wells, but in contrast to wells in sand and gravel, wells drilled in limestones must encounter solution channels, fractures, or joints, in order to be successful. The movement of ground water through limestone is restricted to linear openings within the limestone and does not move from pore space to pore space as is the case with detrital sediments such as sand and gravel. Although shales may have a high porosity, the constituent particles of the rock are so small that little ground-water movement can take place between the particles and consequently, shales are relatively unfavorable as sources of large ground-water supplies.

These three types of sediments, namely: sand and gravel, limestone, and shale constitute the chief types of sedimentary rock found at the surface in the United States. Most igneous and metamorphic rocks which occur in the United States are of a dense, fine-grained character which, in general, is not conducive to the development of large supplies of ground water. The volcanic rocks of the northwest in the Western Mountain region are relatively good aquifers.

Some Areas of Extensive Ground-Water Use

In the past few years, extensive use has been made of ground water by industries, particularly in the industrialized east and in the Coastal Plain region of the South Atlantic States and the Gulf Coast. Early in the war, 260 million gallons a day of ground water were being pumped from Coastal Plain sediments on Long Island, New York, much of it for industrial use *(9)*. Large quantities of ground water are pumped daily by industries located in Philadelphia and Baltimore. Extensive industrial use is made of ground water in the South Atlantic Coastal Plain States, Florida and Georgia. At Savannah, the withdrawal of water is about 41 million gallons a day. At Brunswick, 37 million gallons a day is used. At Fernandina, Florida the withdrawal is about 34 million gallons a day, and at Jacksonville, Florida, about 40 million gallons a day *(6)*.

In 1943, more than 85 million gallons of ground water was used daily by industries in the Memphis, Tennessee area. At Louisville, Kentucky, industrial use of ground water for the same year was about 62 million gallons a day. Summer industrial use at Baton Rouge, Louisiana, totaled about 50 million gallons a day during 1944, and 1942 figures indicate that at Indianapolis, Indiana, industrial processes, cooling and air-conditioning required about 38 million gallons a day.

In many of the areas of industrial use of ground water, rapid expansion has probably resulted in an increase in the amounts of ground-water pumpage since the latest estimates were made. It is probable that the consumption of water at some war plants has decreased or will soon decrease as a result of the ending of the war. However, municipal, industrial, domestic, and irrigation uses of ground water in the immediate postwar period will probably show an overall increase in ground-water use throughout the country.

Problems Related to Industrial Use of Ground Water

Industry has undergone a rapid expansion as a result of the impetus of war production. It is probable that the postwar years will experience continued expansion of many industries, including some requiring large quantities of water for their operation. Two

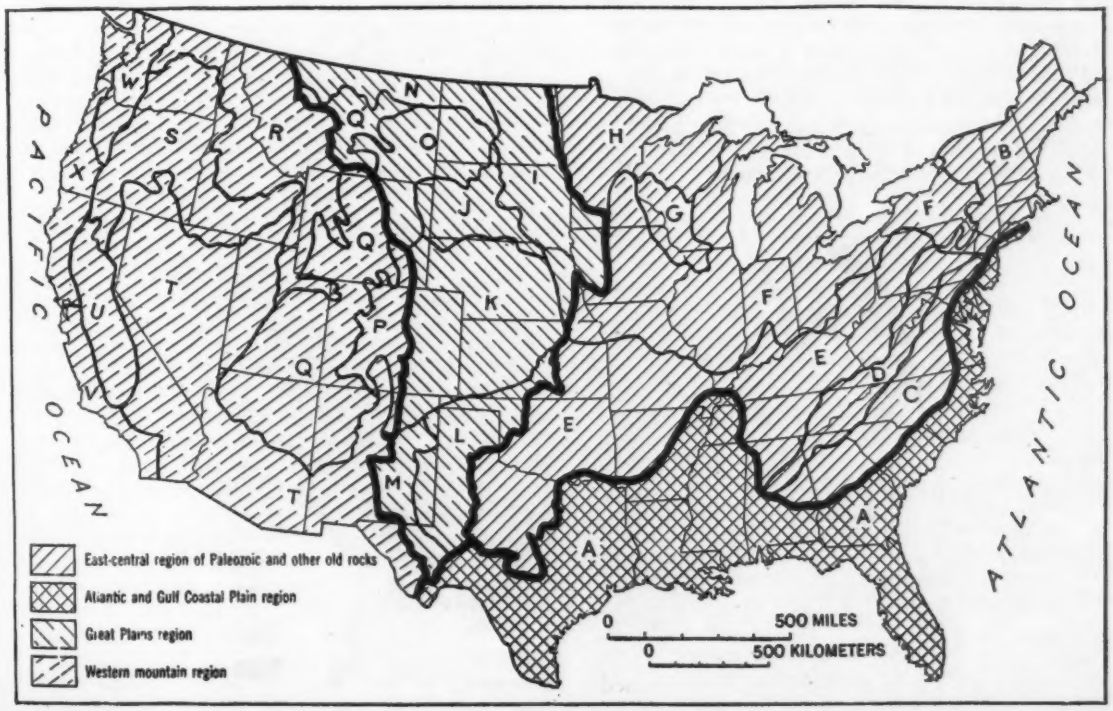

Fig. 4

Map of the United States Showing the Four Major Regions, with Respect to Ground Water, and Their Subdivisions into Ground-Water Provinces.

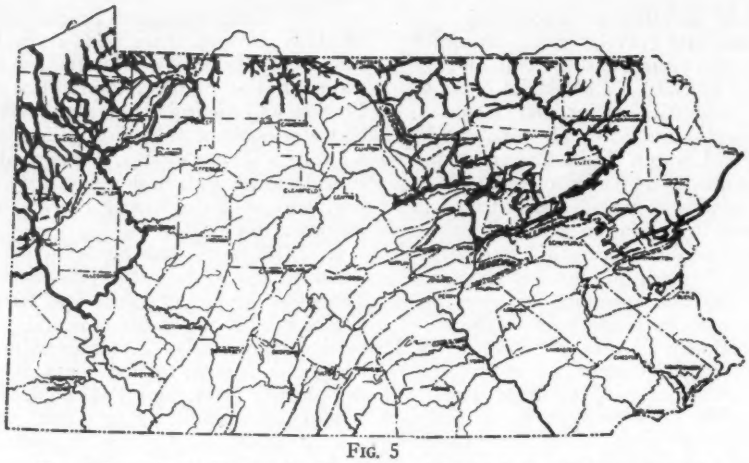

FIG. 5

Map of Pennsylvania Showing the Distribution of Glacial Lake and Stream Deposits.

of the most important factors relating to industrial use of ground water are the nearly uniform cool temperature and chemical characteristics of the water. A trend in many industries has been toward the use of ground water when available, in preference to surface water, wherever the greater year-round cooling properties of ground water are important. Industries such as paper and pulp manufacture require great quantities of water which must meet certain requirements as to chemical characteristics and waters having constant characteristics throughout the year are preferred.

LIMITS OF DEVELOPMENT

There is a wide-spread but erroneous belief that the water table throughout the country is persistently declining and that the ground-water supplies will eventually be exhausted *(10)*. Data of the United States Geological Survey indicate that, over the country as a whole, ground-water levels are not declining persistently, and that only in areas of heavy withdrawal for municipal, industrial, and irrigation supplies have cases of serious depletion occurred.

Most ground-water aquifers have distinct limits as to yield, and regardless of the amount of water potentially available for recharge, movement of water through the geologic formation to the points of discharge is necessarily limited by the ability of the formation to transmit water. The rate at which an aquifer can transmit water at any given gradient of the water surface or pressure surface can be determined with relative accuracy provided the extent and physical character of the water-bearing stratum can be determined. Withdrawal of ground water from an aquifer in amounts exceeding the ability of the aquifer to transmit water will result in the ultimate depletion of the aquifer. In such cases, the yield from the aquifer must be reduced to an amount comparable to the amount of natural recharge which the aquifer is capable of accepting, or the aquifer may be artificially recharged by the introduction of water into the water-bearing bed by direct percolation or by wells in or near the locality of the producing wells.

Quantitative studies may be applied in order to determine the approximate maximum yield of any aquifer. Such methods are equally applicable in the determination of areas in which there is natural ground-water movement through water-bearing beds to points of natural discharge and in which greater or less quantities of water may be developed until approximately all natural movement through the bed to discharge areas has been intercepted.

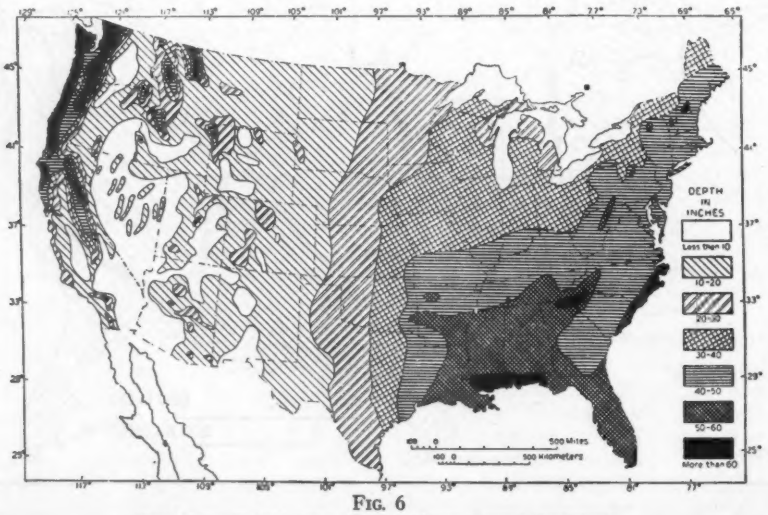

FIG. 6

Map of the United States Showing Mean Annual Precipitation.

In some areas, the limiting factor relating to ground-water development is not quantity, but the danger of encroachment of contaminated waters. As an example, several industrialized areas along the Atlantic and Gulf Coasts have suffered ground-water damage by the movement of salt water into areas of the aquifers which would, under natural conditions, remain fresh. Such conditions in most cases, have been induced by the reversal of normal ground-water gradients. Fresh water normally moves from the land toward the sea or rivers which, in general, constitute the zone of ground-water discharge. This movement may be reversed by localized pumping, so that the movement is from salt water bodies toward the well field, thereby resulting in serious contamination. In other cases, heavy pumpage from aquifers near polluted rivers may result in the movement of water of undesirable chemical characteristics from the streams to the wells, thereby damaging the well supply for use by industries requiring waters of high chemical purity. In some cases, aquifers which are artificially recharged by warm surface water or water heated by use, and aquifers which may be recharged naturally by nearby surface waters may show a rise of temperature in summer. This temperature rise may seriously lower the cooling efficiency of the ground water.

During the early development of ground-water resources in the United States, there was little information as to the general nature of the storage, movement and recharge conditions of ground-water supplies. Studies made by Federal and State Geological Surveys, by well-drilling concerns, and to a lesser extent, by some of the larger industries depending upon ground-water sources, have resulted in considerable information concerning this important natural resource. In general, the limitations of ground-water reservoirs are recognized. The geologic conditions relating to the movement and replenishment of ground water are understood sufficiently so that geologic and engineering procedures which have been developed now permit fairly accurate quantitative and qualitative estimates of ground-water supply to be made. The study of ground-water resources has become a science in which the most modern geological, chemical, and engineering procedures are utilized.

Activity of Federal and State Geological Surveys in Relation to Ground-Water Studies

Ground water for industrial use is receiving close attention in many parts of the country. Most of the States have Geological Surveys, and in many of these states, the Federal Geological Survey and the State Surveys or other state agencies are making joint investigations of ground-water resources. Such studies frequently relate to counties or areas of larger size. Many cities and municipalities have also entered into cooperative agreements with the Federal Survey for ground-water investigations, and detailed studies of the ground-water conditions in such relatively small areas have been made.

The results of such studies may be published by the municipality or state engaged in the cooperative study, or by the Federal government.

In recent years, more and more attention has been given to the chemical quality and temperature of ground water, primarily through studies by the Federal and State Geological Surveys. Several large water-supply contracting firms and chemical-supply houses have conducted research bearing upon the development and industrial utility of ground-water resources, and the results of such studies appear in many technical journals.

Effective progress is being made toward meeting the demands of industries for information vital to their water-supply needs.

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Paper Making in Korea

To the Editor, PAPER TRADE JOURNAL:

As a former member of the Technical Association of the Pulp and Paper Industry, I believe that some of the readers of the PAPER TRADE JOURNAL may be interested in my present activities.

For thirty years or more Korea was under the complete control of Japan and Korean leadership was suppressed. Important technical positions were held by Japanese technical men. Consequently, today finds Korea a people with but few trained leaders.

In the American zone of occupation in Korea there are fifteen paper mills, including a two fourdrinier mill producing newsprint and two five cylinder machine mills. The other plants produce what Koreans call senkasi papers. These are tissues of rather low grade and of poor color.

After several months of management of the newsprint mill we increased production from 37,000 to 300,000 pounds per month. I have now been transferred to the national headquarters of the U. S. Army Military Government in Korea and have been placed in charge of all paper production in the American Zone.

While in my former position I formed an organization of papermill men including the general managers, superintendents and office managers of three mills. The group adopted the name of Technical Association of the Korean Pulp and Paper Industry. The stated purpose is to improve the industry by standardization of methods, tests, weights, and by increasing the knowledge of paper making through foremen and general labor training.

Textbooks on pulp and papermaking are nonexistent. Since Korea should become a customer for felts, jackets, wires, machinery and all kinds of equipment for pulp and paper making I would greatly appreciate what any individual or company in the United States can do in sending us literature on any phases of the art. This material will be translated into Korean and used as the training program. Please address such matter to:

Albert B. Gregg, Capt. Infantry
Bureau of Commerce
HQ--USAMG--IK APO 238
c/o Postmaster, San Francisco, Calif.

United States Patents on Papermaking

Second Quarter, 1946

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography, TAPPI

The following list of patents has been compiled from the current numbers of the Official Gazette of the United States Patent Office. Because, as a rule, only one claim is published in the Gazette, it is not claimed that the list is complete; also, it is possible that the list may contain some patents that do not apply specifically to pulp and paper manufacture.

Copies of any of the following patents may be obtained from the United States Patent Office, Washington, D.C., by sending ten cents for each patent desired. The number of the patent, the name of the inventor, and the title of the patent should be given in the request. Personal checks and postage stamps are not accepted in payment for patents. Books of coupons may be purchased for two or ten dollars, good for 20 or 100 patents. Coupon orders do not have to be accompanied by letters of transmittal.

April 2, 1946

2,397,490. Apparatus for removing bark from slabs. Basil E. Kenney, Jr., Port St. Joe, Fla. Filed Jan. 31, 1944. 3 claims. (Cl. 144-208). A feeder means comprising a series of gears.

2,397,549. Portable bottle carrier. Stanley R. Koolnis, assignor to Display Cartons Company, New York, N. Y. Filed July 8, 1942. 7 claims. (Cl. 224-45).

2,397,589. Container closure. Herbert A. Barnby and Jack M. Wheaton, assignors to Owens-Illinois Glass Company, Toledo, Ohio. Filed May 1, 1943. 4 claims. (Cl. 215-38). A combination of a wax, oil paper, and paperboard.

2,397,646. Method of applying patches to woven-wire cloth. Hugh E. Brown and Stewart M. Grant, assignors to The W. S. Tyler Company, Cleveland, Ohio. Filed Sept. 25, 1943. 1 claim. (Cl. 219-10).

2,397,733. Apparatus for handling and coating containers. Wiltie I. Gladfelter and William A. Schmidt, assignors to Crown Cork & Seal Company, Inc., Baltimore, Md. Filed July 14, 1943. 19 claims. (Cl. 91-45). A machine for coating the interior of cans with a liquid coating material.

2,397,817. Wall covering and the like. Le Roy W. Staunton, John W. Close, and Roy A. Hess, assignors to Trimz Company, Inc., Chicago, Ill. Filed May 3, 1943. 3 claims. (Cl. 167-37). A prepasted wall paper having a printed surface simulating cedar wood and containing oil of cedar.

2,397,880. Carrying means for containers. William J. Newman, assignor to The Gardner-Richardson Company, Middletown, Ohio. Filed Aug. 30, 1940. 1 claim. (Cl. 229-52).

2,397,898. Handle structure for bottle carriers. Albert Wesselman, Cincinnati, Ohio. Filed Jan. 21, 1944. 1 claim. (Cl. 229-52).

April 9, 1946

2,397,934. Carton. William P. Frankenstein, Cincinnati, Ohio. Filed July 21, 1941. 5 claims. (Cl. 229-34).

2,398,042. Method of applying protective coatings. Martin Salo, assignor to Eastman Kodak Company, Rochester, N. Y. Filed July 3, 1942. 15 claims. (Cl. 117-157). Paper is coated with a heat-stable ethylcellulose (45 to 55% ethoxyl content and a viscosity of 5-100 centipoises) and at least 20% of a high molecular weight plasticizer.

2,398,155. Folding box. Samuel Platt, San Francisco, Calif. Filed Aug. 16, 1943. 2 claims. (Cl. 229-34).

2,398,200. Machine for making containers. William W. Van Voorhis, assignor to Fibreboard Products, Inc., San Francisco, Calif. Filed Nov. 27, 1943. 14 claims. (Cl. 93-51). A machine for making containers having a tendency for opposite sides thereof to move inwardly before adhesive thereon has set.

2,398,297. Shot shell wad. Walter L. Finlay, assignor to Remington Arms Company, Inc., Bridgeport, Conn. Filed May 8, 1942. 4 claims. (Cl. 102-95). Fibrillated Asplund fibers are bound together by a starch paste.

2,398,312. Process for producing a tall oil of low viscosity and free from crystallization. William H. Jennings, assignor to Camp Manufacturing Company, Inc., Franklin, Va. Filed Sept. 9, 1944. 3 claims. (Cl. 260-97.5). Tall oil is reacted with a quantity of sulphuric acid having a concentration of from 85 to 87% equal to approximately 20% of the resin acids content, until selective polymerization is completed, the temperature being held at approximately 40° C.

2,398,326. Process of making articles from fibrous material. John F. Reeves, assignor to Cellu-Service Corporation, New York, N. Y. Filed Aug. 29, 1941. 1 claim. (Cl. 18-56). A method of making an article, such as a spoon, from sheet material formed of compressed wool fiber.

April 16, 1946

2,398,388. Production of laminated stock bonded with a dihydroxy benzene aldehyde resin. Arthur J. Norton, assignor to Pennsylvania Coal Products Company, Petrolia, Pa. Filed April 5, 1941. 14 claims. (Cl. 154-140). Fibers impregnated with a resin from resorcinol and formaldehyde are cured under pressure at a temperature of 100° to 110° C.

2,398,402. Carton. Albert E. Bentham, assignor to The Baltimore Paper Box Company, Baltimore, Md. Filed June 12, 1942. 9 claims. (Cl. 229-23).

2,398,404. Consumer-type container and method of making the same. Lewis C. Brooks, Madison, Wis., assignor of one third to Ira M. Jones, Mequon, Wis. Filed Oct. 23, 1942. 11 claims. (Cl. 229-5.5).

2,398,405. End closure for paperboard containers. Lewis C. Brooks, Milwaukee, Wis., assignor of one third to Ira M. Jones, Mequon, Wis. Filed Jan. 20, 1944. 8 claims. (Cl. 229-5.5). An end closure construction for flat sided containers.

2,398,420. Bleaching and loading of papermaking fiber. Horace Freeman, assignor to Consolidated Paper Corporation Limited, Montreal, Quebec, Canada. Filed May 8, 1945. 2 claims. (Cl. 8-104). Calcium bisulphite solution containing free sulphur dioxide is reacted with metallic zinc, treated with milk of lime to a pH of substantially 5 to 6.5, and the slightly acid solution of hydrosulphite is added to pulp, thereby effecting the bleaching and loading of the pulp at a temperature bewteen 100° and 180° F.

2,398,536. Packing for collapsible tubes. Henry R. Kohlhepp, assignor to American Box Board Company, Grand Rapids, Mich. Filed June 25, 1945. 4 claims. (Cl. 229-87).

2,398,632. Building element. Orcutt W. Frost and James H. Conover, assignors to United States Gypsum Company, Chicago, Ill. Filed May 8, 1944. 5 claims. (Cl. 154-45.9). An exterior insulation board.

2,398,699. Sizing compositions. Arthur C. Dreshfield, assignor to Hercules Powder Company, Wilmington, Del. Filed Sept. 3, 1941. 11 claims. (Cl. 106-230). A nondusty dry saponified rosin sizing composition readily dispersible in water and resistant to oxidation in the air, which contains from 15 to 50% of wax.

April 23, 1946

2,398,797. Pigeon container. Otto Meyer and Lewis Stein, assignors to Government of the United States of America, as represented by the Secretary of War. Filed Sept. 15, 1944. 3 claims. (Cl. 229-45). A blank for forming a collapsible container.

2,398,843. Apparatus for coating paper. Gerald D. Muggleton and Albert F. Piepenberg, assignors to Combined Locks Paper Co Combined Locks, Wis. Filed July 11, 1942. 5 claims. (Cl. 91-49). The periphery of the distributing roll has a multiplicity of indentations of uniform design which are staggered with respect to perpendicular planes parallel to the machine direction so as to avoid surface tension ridges in the film of coating carried by the descending side of the upper of the pair of rolls.

2,398,844. Paper coating. Gerald D. Muggleton and Albert F. Piepenberg, assignors to Combined Locks Paper Co., Combined Locks, Wis. Filed March 4, 1944. 18 claims. (Cl. 117-64). A measured film of aqueous suspension of solids on the surface of one of a pair of rolls is applied to a web of paper and a heterogeneous pattern is imparted to the film to break up the surface tension ridges therein, after which the film is reworked to obliterate the patterns.

2,399,000. Envelope. Francis E. Carroll, assignor to United States Envelope Company, Springfield, Mass. Filed Sept. 4, 1943. 6 claims. (Cl. 43-146). An envelope for containing and dispensing powdered material.

2,399,124. Method of manufacturing composite boards. Gustaf Kähr, Stockholm, Sweden. Filed Feb. 4, 1942. 6 claims. (Cl. 154-118).

April 30, 1946

2,399,241. Container. Alfred Merkle, assignor to American Sealcone Corporation, New York, N. Y. Filed Aug. 3, 1940. 7 claims. (Cl. 229-5.5).

2,399,250. Can end assembling machine. John F. Peters, assignor to American Can Company, New York, N. Y. Filed Feb. 25, 1943. 15 claims. (Cl. 93-55.1). Apparatus for assembling and joining a tubular oppositely beaded body and flat end members of fiber containers.

2,399,256. Creping of webs with thin coatings of creping adhesive. William W. Rowe, assignor to Cincinnati Industries, Inc., Lockland, Ohio. Filed Jan. 18, 1943. 8 claims. (Cl. 154-33.05). The adhesive solution yields a coating which contains about 2 pounds of solids per 1000 square feet; the coating serves as a creping adhesive because the solids are substantially unabsorbed into the web; the web is removed from the creping surface with a creping doctor.

2,399,338. Method of laminating porous sheet materials. James G. Ford, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa. Filed July 7, 1944. 10 claims. (Cl. 154-40). Tubular laminated structures are built from a heavy sheet of fibrous cellulosic material at least 10 mils thick which carries a coating of polyvinyl alcohol.

2,399,489. Coating compositions for paper and the like. Chester G. Landes, assignor to American Cyanamid Company, New York, N. Y. Filed Oct. 6, 1943. 10 claims. (Cl. 260-9). A coating composition having a pH of 4 to 7 and a total solids content of 20 to 65% by weight contains a mineral pigment, an alkali metal polyphosphate dispersion agent, starch, and a urea- or melamine-formaldehyde condensation product.

2,399,537. Carton. Perry Belden, assignor to National Union Radio Corporation, Newark, N. J. Filed May 18, 1944. 2 claims. (Cl. 229-6). Carton for radio tubes.

2,399,546. Apparatus for distributing stock to the cylinder of paper machines. Jacob Edge, assignor to Downingtown Manufacturing Company, Downingtown, Pa. Filed Aug. 20, 1942. 5 claims. (Cl. 92-46). An apparatus for controlling the supply of an aqueous dispersion of stock to a cylinder machine, including a white water circulating system.

2,399,604. Receptacle. Philip J. Schoenberger, West St. Paul, Minn. Filed Sept. 20, 1944. 1 claim. (Cl. 229-25).

May 7, 1946

2,399,649. Carton. Frank A. Marx, assignor to The Richardson Taylor-Globe Corporation, Cincinnati, Ohio. Filed Aug. 3, 1940. 2 claims. (Cl. 229-31).

2,399,748. Sizing composition for use in papermaking. Andrew J. Luettgen, assignor to P. H. Glatfelter Company, Spring Grove, Pa. Filed March 9, 1943. 3 claims. (Cl. 106-144). The sizing composition consists of a binding agent (fusible resins and waxes), clay, a compatible soap, and casein.

2,399,804. Method of securing elastometric films to sheet material. Leander H. Hills and Alexander L. Gordon, assignors to The Vellumoid Company, Worcester, Mass. Filed Dec. 9, 1942. 4 claims. (Cl. 117-155). Method of making gasket material from paperboard.

2,399,873. Process of coating with preservative compositions. Edwin R. Littman, Westfield, and John R. M. Klotz, Montclair, N. J., assignors to Stanco, Inc. Filed Dec. 28, 1940. 2 claims. (Cl. 117-65). A cellulose material is impregnated with an emulsion of copper and aluminum naphthenates, paraffin, and water and subjected to a temperature which will fuse the metallic salts.

2,399,934. Container fabricating machine. Charles Z. Monroe, assignor to The American Paper Bottle Company, Toledo, Ohio. Filed May 4, 1943. 9 claims. (Cl. 93-53).

2,399,980. Adhesives. Lawrence Bradshaw, Francis J. Morrow, and Carl F. MacLagan, assignors to The Borden Company, New York, N. Y. Filed June 22, 1942. 6 claims. (Cl. 260-39). A dry glue base contains a pulverous urea-formaldehyde condensation product and a conditioner (aluminum or ferric phosphate, silica, or clay).

2,399,981. Paper product and method of making the same. Kenneth W. Britt, assignor to Scott Paper Company, Chester, Pa. Filed Aug. 13, 1941. 11 claims. (Cl. 92-40). The wet strength of paper is increased by impregnating with sodium silicate, adding an acid to form silicic acid, and drying the product.

2,399,982. Paper product and method of making same. Kenneth W. Britt, assignor to Scott Paper Company, Chester, Pa. Filed Aug.

13, 1941. 11 claims. (Cl. 92-40). The formed paper web is impregnated with sodium silicate (between 0.1 and 2.5%, calculated as silica) and is heated above 212° F. to deposit the silicate within and upon the fibers, thus reducing the tendency of the fibers to swell upon application of water.

2,399,98. Method for refining paper stock. Edwin Cowles, assignor to The Cowles Company, Princeton, N. J. Filed Dec. 5, 1942. 3 claims. (Cl. 92-26).

2,400,053. Process of manufacturing a composition from waste liquor of cellulose. Eberhard Rheinberger, Berlin, Germany; vested in the Alien Property Custodian. Filed Jan. 14, 1943. 1 claim. (Cl. 106-123). From 2 to 30 grams of montan wax and 5 to 30 cc. of concentrated nitric acid are added to a cyanamide compound of an alkaline earth metal and this mixture is added to sulphite waste liquor; a tough gel-like composition is formed which, after adding a filler, is dried and ground; the resulting product can be molded.

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2,400,153. Article assembling. Cutler D. Knowlton and Frank R. Thresh, assignors to Hoague-Sprague Corporation, Lynn, Mass. Filed May 31, 1941. 22 claims. (Cl. 93-55.1). A mechanism for closing boxes with their covers.

2,400,263. Machine for breaking up cartons. Max Rusch, Seattle, Wash. Filed March 4, 1944. 1 claim. (Cl. 241-243).

2,400,301. Cigarette paper booklet. Otto F. Goepfert, Walter K. Strauss, and Robert H. Clayton, Jr., Brevard, N. C., assignors to Champagne Paper Corporation. Filed March 27, 1942. 1 claim. (Cl. 206-57).

2,400,304. Method of manufacturing metal coated articles. William W. Hamel, assignor of two thirds to Armand E. Lackenbach and one third to Louis Stark and Samuel Kaplan, New York, N. Y. Filed Sept. 18, 1941. 6 claims. (Cl. 117-60). The surface of paper articles is wetted with glycerin and sprayed with fused aluminum.

2,400,361. Method of pretreating cellulose to facilitate its acylation. Carl J. Malm and Loring W. Blanchard, Jr., assignors to Eastman Kodak Company, Rochester, N. Y. Filed Aug. 4, 1942. 3 claims. (Cl. 260-229). Cellulose for esterification is activated by treating with a mixture of a fatty acid of 3-4 carbon atoms, 0.3 to 0.5 part of formic acid per part of cellulose, and a small proportion of sulphuric acid.

2,400,443. Portable carton. Charles A. Stopper, assignor to Diamond Paper and Box Co., Philadelphia, Pa. Filed April 22, 1944. 2 claims. (Cl. 229-39).

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2,400,481. Apparatus for testing water-vapor permeability. George J. Brabender, Wausau, Wis. Filed March 25, 1944. 3 claims. (Cl. 73-159). Apparatus for simultaneously testing water-vapor permeability of two test specimens.

2,400,544. Conductive paper. Bernard L. Kline and Curt E. Mobius, assignors to The Western Union Telegraph Company, New York, N. Y. Filed Oct. 24, 1944. 3 claims. (Cl. 92-3). The paper contains a mixture of finely divided metal particles and a stearic acid ester of diethylene glycol.

2,400,546. Process of preparing fibrous product from wood. Frederick W. Kressman, assignor to Continental Turpentine & Rosin Corp., Inc., Laurel, Miss. Filed Nov. 21, 1942. 4 claims. (Cl. 202-39). Fibrous particles of wood of different absorbent qualities are extracted with a volatile organic solvent, steamed to remove the solvent and introduce a relatively large percentage of moisture, and dried to a moisture content of approximately 15%, after which the particles are separated by air classification to separate low from high density forms.

2,400,607. Treatment of tall oil. Ernest Segessemann, assignor to National Oil Products Company, Harrison, N. J. Filed Jan. 1, 1942. 19 claims. (Cl. 260-97.5). The fatty acids in tall oil are esterified with a monohydric alcohol, the esters hydrogenated, and the saturated esters separated by cooling and filtration.

2,400,677. Control of slime organisms. William W. Allen, assignor to The Dow Chemical Company, Midland, Mich. Filed Aug. 12, 1943. 4 claims. (Cl. 210-23). From 5 to 20 parts per million of a combination of one part of a water-soluble copper salt and 1 to 18 parts of a water-soluble trichlorophenolate are used for the control of slime formation.

2,400,682. Wrapper folding mechanism. Wilhelm B. Bronander, Montclair, N. J. Filed Jan. 26, 1945. 8 claims. (Cl. 93-7).

2,400,716. Container. Hugh J. Sattler, Philadelphia, Pa. Filed Sept. 15, 1942. 5 claims. (Cl. 222-107). A collapsible tube of fibrous material.

2,400,725. Apparatus for debarking timber. George S. Witham, Hudson Falls, N. Y. Filed July 21, 1944. 8 claims. (Cl. 51-14). Logs are subjected to a blasting action, such as with sand, shot, emery, etc.

2,400,746. Method of making thick butt shingles. Attiglio A. Fassio-to and George W. Strunk, assignors to The Ruberoid Co., New York, N. Y. Filed Dec. 8, 1943. 4 claims. (Cl. 117-10).

2,400,759. Paper bag. Morris Katz (Sophie Katz, administratrix), Bronx, N. Y. Filed Oct. 30, 1943. 5 claims. (Cl. 229-54). Method of forming reinforced handles for paper bags.

2,400,820. Stabilization of converted starch pastes. Sivert N. Glarum and Joseph J. Thomas, assignors to Rohm & Haas Company, Philadelphia, Pa. Filed Oct. 20, 1942. 2 claims. (Cl. 260-9). A mixture of an aqueous paste of a water-soluble, partially hydrolyzed starch and 0.5 to 25% of a water-soluble condensate of urea, melamine, and formaldehyde is heated.

2,400,859. Method of recovering glycerol from fermented liquors. James S. Wallerstein, Eduard Farber, and Victor Dayton, assignors to The Overly Biochemical Research Foundation, Inc., New York, N. Y. Filed April 3, 1943. 15 claims. (Cl. 195-14). The carbohydrates in a wheat mash are hydrolyzed to maltose, the product is treated with 0.5% hydrochloric acid, the mixture is boiled with a sulphite waste liquor, the precipitate is removed, and the liquor is subjected to glycerol fermentation.

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2,400,995. Gummed product. Ferdinand W. Humphner, assignor to Mid-States Gummed Paper Co., Chicago, Ill. Filed Dec. 15, 1941. 2 claims. (Cl. 117-122). A remoistening gummed paper product, the sheet and the adhesive being provided with a plurality of capillary apertures.

2,401,090. Dry size compositions. Robert T. Mashburn, assignor to Hercules Powder Company, Wilmington, Del. Filed June 14, 1941. 9 claims. (Cl. 106-144). The size consists of the solidified product of a homogeneous mixture of molten rosin, a water- or alkali-soluble protective colloid, and between about 0.5 and 5% by weight of the rosin of a water-soluble alkali; the material is stable to decomposition and degradation upon storage.

2,401,109. Double-ended bag and method of making same. Howard A. Rohdin, assignor to Marjorie M. Rohdin, Glen Ridge, N. J. Filed Aug. 20, 1942. 5 claims. (Cl. 93-35).

2,401,110. Bag and method of making same. Howard A. Rohdin, Glen Ridge, N. J. Filed Sept. 20, 1943. 11 claims. (Cl. 229-56). A flexible container having a plurality of compartments.

2,401,141. Packing material. William J. De Reamer, assignor to Mapes Consolidated Manufacturing Company, Griffith, Ind. Filed April 20, 1942. 4 claims. (Cl. 217-26). A packing material in the form of a cushion pad.

2,401,158. Bottle carrier. Mitchel E. Holy, assignor to Container Corporation of America, Chicago, Ill. Filed Feb. 17, 1940. 2 claims. (Cl. 224-45). The bottle carrier is formed from foldable paperboard.

2,401,180. Method of making molded plastic articles. William H. Parmelee, assignor to Wheeling Stamping Company, Wheeling, W. Va. Filed March 19, 1943. 3 claims. (Cl. 18-56). A thin but rigid cup-like molded plastic article formed from a resin-impregnated fibrous material.

2,401,217. Wax composition and method of preparing the same. Michael Berliney, Garfield A. Bowden, and Jack T. Hohnstine, assignors to Boyle-Midway, Inc., New York, N. Y. Filed Nov. 4, 1942. 5 claims. (Cl. 106-219). A coating composition contains an ester-type rosin, stearic acid, and paraffin wax.

JUNE 4, 1946

2,401,314. Manufacture of reinforced asbestos paper. Robert G. Quinn, assignor to Johns-Manville Corporation, New York, N. Y. Filed Sept. 23, 1943. 3 claims. (Cl. 92-40). A reinforcing scrim is placed between webs of asbestos fibers lightly sized with 1.5-3% of oxidized starch gum.

2,401,368. Method for testing the airtightness of closed containers. Robert J. O'Connell, Succasunna, N. J., Irving Cohen, Elizabeth, N. J., and Carl Rosenblum, Brooklyn, N. Y. Filed June 2, 1943. 4 claims. (Cl. 73-40).

2,401,373. Tanning of leather. Edwin A. Robinson and Ralph M. Beach, assignors to National Oil Products Company, Harrison, N. J. Filed Nov. 21, 1941. 3 claims. (Cl. 260-124). A water-soluble dichromate is reacted with lignosulphonic acid.

2,401,412. Apparatus for conditioning material. Edward J. Cogovan, assignor to F. C. Huyck & Sons, Rensselaer, N. Y. Filed Feb. 28, 1944. 3 claims. (Cl. 73-73). A device for conditioning material having regain characteristics.

2,401,461. Device for sealing cylindrical cans or similar containers. George K. Charles, Wincanton, Somerset, England. Filed April 3, 1945. 5 claims. (Cl. 216-58). A method of applying adhesive tape to the junction of the lid and body of the can.

2,401,500. Log barker. John Ockfen, Spanaway, Wash. Filed March 11, 1943. 8 claims. (Cl. 144-208). A log supporting and rotating means.

2,401,508. Synthetic tanning agent. Edwin A. Robinson and Ralph M. Beach, assignors to National Oil Products Company, Harrison, N. J. Filed Aug. 2, 1945. 3 claims. (Cl. 260-124). A water-soluble dichromate is reacted with a lignosulphonic acid-formaldehyde condensation product.

2,401,603. Papermaking machinery. Alfred I. Black, assignor to Isabell Black, Hartford City, Ind. Filed April 27, 1944. 4 claims. (Cl. 34-120). Spaced antifriction bearings are provided on the sheave end of each of the drier rolls.

2,401,648. Means for manufacturing composite board structures. Gustaf Kähr, Stockholm, Sweden. Filed Aug. 20, 1941. 7 claims. (Cl. 144-279). A matrix for applying lateral pressure to composite boards.

2,401,664. Box. Irving Robins, assignor of one half to Leonard Robins, Chicago, Ill. Filed Feb. 8, 1945. 1 claim. (Cl. 229-52). A method of attaching a handle to a box.

2,401,675. Laminated fibrous sheet material. Harris O. Ware, assignor to Hercules Powder Company, Wilmington, Del. Filed Jan. 17, 1942. 9 claims. (Cl. 154-50). A laminated fibrous sheet material suitable for making paper drums is prepared by using as an adhesive an aqueous ammoniacal dispersion of casein and an ammonium or water-soluble primary aliphatic amine complex compounds of zinc, cadmium, or magnesium.

JUNE 11, 1946

2,401,742. Carton. Albert E. Bentham, assignor to The Baltimore Paper Box Co., Baltimore, Md. Filed Feb. 5, 1945. 6 claims. (Cl. 229-15). A box with dividers.

2,401,765. Cushioned shipping container. Richard Kuhlman, assignor to Tung-Sol Lamp Works, Inc., Newark, N. J. Filed Dec. 1, 1943. 4 claims. (Cl. 229-14).

2,401,819. Culture of yeast. Eric W. Eweson, New York, N. Y. Filed Sept. 2, 1942. 6 claims. (Cl. 195-57). Yeast cells are propagated in sulphite liquor with sufficient aeration to inhibit the formation of alcohol; the cells are coated with lignin; finally, the yeast is rehydrated and the lignin is removed at the time of use.

2,401,944. Folding box. David Levkoff, Brooklyn, N. Y., assignor of one fourth each to Evekyn G. Levkoff, Henry S. Levkoff, and Edith R. Levkoff, Great Neck, N. Y. Filed May 24, 1945. 5 claims. (Cl. 229-31).

2,402,063. Papermaking machine. Bernard A. Malkin, assignor to Dominion Engineering Works, Limited, Lachine, Quebec, Canada. Filed May 4, 1942. 11 claims. (Cl. 92-43). A cylinder paper machine.

JUNE 18, 1946

2,402,123. Moisture vaporproofing material. Lothian M. Burgess and Gene Abson, assignors to H. P. Smith Paper Company, Chicago, Ill. Filed July 8, 1943. 2 claims. (Cl. 260-23). An adhesive composition suitable for forming substantially vaporproof laminates of sheet material consists of 30 to 60 parts by weight of petroleum (melting below 155° F.), 40 to 70 parts of a compatible terpene hydrocarbon condensation resin, and 2 to 10% of an aluminum soap.

2,402,145. Shipping band for bombs and projectiles. Albert P. Belanger, Chicago, Ill. Filed Jan. 1, 1943. 10 claims. (Cl. 102-1). The shipping band is made of layers of paper.

2,402,160. Manufacture of bituminous fiber and fiber products. Clark C. Heritage, assignor to Wood Conversion Company, Cloquet, Minn. Filed May 13, 1940. 17 claims. (Cl. 92-6). Lignocellulosic material is heated with water vapor above 212° F. and treated with a bituminous heat-plastic material.

2,402,183. Coating apparatus. Robert G. Rowe and Jane P. Goepfert, assignors to The Carborundum Company, Niagara Falls, N. Y. Filed April 13, 1944. 12 claims. (Cl. 91-18). Apparatus for the manufacture of particle-coated webs.

2,402,218. Bottle carrier. Albert Wesselman, Cincinnati, Ohio. Filed Nov. 3, 1944. 5 claims. (Cl. 224-45).

2,402,219. Bottle carrier. Albert Wesselman, Cincinnati, Ohio. Filed April 10, 1945. 5 claims. (Cl. 224-45).

2,402,224. Steam joint. Lloyd Hornbostel, assignor to Beloit Iron Works, Beloit, Wis. Filed May 12, 1944. 8 claims. (Cl. 285-10). A fluid-flow packing joint for rotatable drier drums.

2,402,231. Wrapper sealing mechanism for packaging machines. Charles Arelt, assignor to American Machine & Foundry Company, New York, N. Y. Filed June 17, 1943. 3 claims. (Cl. 93-27).

2,402,237. Combination preheater and steam shower for corrugating and like machines. Frank C. Carder, assignor to Container Corporation of America, Chicago, Ill. Filed June 6, 1944. 2 claims. (Cl. 91-18).

2,402,272. Adhesive applying apparatus. Walter T. Bailey, assignor to Stokes and Smith Company, Philadelphia, Pa. Filed Jan. 4, 1943. 16 claims. (Cl. 91-49).

2,402,351. Water repellent composition and the process of preparing the same. Joseph E. Smith and Paul J. Mitchell, assignors to E. I. du Pont de Nemours & Company, Wilmington,

Del. Filed Feb. 21, 1945. 5 claims. (Cl. 106-134). A water-repelling composition contains 10 to 40% of paraffin wax, 4 to 6% of aluminum salts (normal and basic aluminum acetates and formates, 1.5 to 8% of a protective colloid (glue or gelatin) and 0.8 to 3.2 parts of a water-soluble salt of dinaphthylmethanedisulphonic acid), and 46 to 84.5% of water.

2,402,469. Methods of making fibrous materials. William C. Toland, Brookline, Mass., and Benjamin B. Burbank, Brunswick, Maine, assignors to said Toland, trustee. Filed June 28, 1941. 3 claims. (Cl. 92-21). Water-swollen particles are incorporated into a suspension of fibers and the mixture is heated at 130° to 220° F. to remove the water and to form a continuous mass and then up to 450° F. to toughen the web and increase the bonding strength of the polyvinyl alcohol in the fibers. The product is characterized by increased wet strength.

JUNE 25, 1946

2,402,542. Coated paper and method of making same. Chauncey P. Foote, Jr., and Clifford D. Guertin, assignors to American Bank Note Company, New York, N. Y. Filed April 22, 1943. 15 claims. (Cl. 117-1). Paper is coated with a water-soluble binder and calcium carbonate and tartaric acid; the coating may be destroyed by dipping the coated sheet into water.

2,402,548. Method of making leakproof packages. Reynolds Guyer, assignor to Waldorf Paper Products Company, St. Paul, Minn. Filed May 5, 1943. 8 claims. (Cl. 93-36.3). A method of sealing a carton having a plurality of panels connected together.

2,402,554. Molded product and method of making. Fergus A. Irvine and Emile Frederick, Jr., assignors to The Celotex Corporation, Chicago, Ill. Filed May 25, 1936. 16 claims. (Cl. 18-47.5). The process of molding a hard dense product from ligneous cellulose substance having a moisture content of about 9%.

2,402,559. Method for applying carbon to sheets. James A. La Hatte and Robert B. Smith, assignors to The Reynolds & Reynolds Company, Dayton, Ohio. Filed Jan. 11, 1943. 4 claims. (Cl. 117-36). Method for applying coating to predeterminedly spaced recurring areas.

2,402,717. Plastic framed laminated panel and method. Ephraim Winer, assignor to The National Plastic Products Company, Odenton, Md. Filed Sept. 15, 1942. 8 claims. (Cl. 18-59). One part of the panel is a tempered lignin plastic material.

2,402,821. Receipt envelope. John E. Kosteling, assignor to Field-Ernst Envelope Company, San Francisco, Calif. Filed March 27, 1944. 2 claims. (Cl. 229-73).

2,402,870. Moisture vapor-proofing material. Lothian M. Burgess and Gene Abson, assignors to H. P. Smith Paper Company, Chicago, Ill. Filed July 8, 1943. 3 claims. (Cl. 106-218). The adhesive suitable for forming substantially moisture vaporproof laminates contains 30 to 60 parts of petrolatum (melting below 155° F.) and 40 to 70 parts of a compatible hard and brittle water-insoluble metallic resinate.

2,402,895. Means for absorbing relief gases from sulphite pulp digesters. Jacob D. Jenssen, assignor to G. D. Jenssen Company, Incorporated, New York, N. Y. Filed June 17, 1944. 1 claim. (Cl. 92-7).

2,402,903. Process for coating sheet materials. Peter J. Massey and Lothian M. Burgess, assignors to H. P. Smith Paper Company, Chicago, Ill. Filed Sept. 27, 1944. 5 claims. (Cl. 117-168). A method is given for applying an aluminum higher fatty acid soap-wax jell to sheet material.

TAPPI Notes

T. Richard Probst, formerly of the Gilbert Paper Company, is now assistant treasurer of the Keith Paper Company, Turners Falls, Mass.

L. B. Tucker is now technical director of Crand & Company, Dalton, Mass.

The Port Royal Pulp and Paper Company is now called St. John Sulphite Ltd., Fairville, N. B.

John C. Wollwage is now mill manager of the Lakeview mill of the Kimberly-Clark Corporation, Neenah, Wis.

A. E. H. Fair, president of the Alliance Paper Mills, Ltd., is now located at 350 Bay Street, Toronto, Ont.

Alfred R. Phillips, formerly of the Army, is now in the new products development division of the Mead Corporation, Chillicothe, Ohio.

W. H. Millspaugh, formerly president of Millspaugh Ltd., Sheffield, England, has retired from that company and is located in Sandusky, Ohio.

Robert S. Magruder has been transferred from the Norfolk, N. Y., to the Deferiet, N. Y., mill of St. Regis Paper Company.

Members of TAPPI who have changed their positions or addresses should notify the Secretary. A number of publications sent out in the past six months have been returned by local post offices because they have no forwarding addresses on file.

Max R. Oberdorfer is now assistant manager of the St. Helens Pulp and Paper Company, St. Helens, Ore.

John C. Dean has succeeded T. E. Dial (Retired) as representative of the Socony-Vacuum Oil Company in the Technical Association.

James E. Foote is now assistant manager of the B-F-D Company, Plattsburg, N. Y.

Harold R. Murdock, consulting engineer, has accepted a position with the AMG in Tokyo, Japan, as chief of pulp and paper activities.

Recent visitors to New York from abroad include: A. B. Cooper, E. S. & A. Robinson Ltd., Bristol, England.

P. E. Wenander, president of Rosendahls Fabriker A. B., Filipstad, Sweden.

William J. Nolan, formerly of the University of Maine, is now associate research engineer at the Engineering and Industrial Experiment Station, University of Florida, Gainesville, Fla.

James d'A. Clark, formerly Lt. Col. Chicago Quartermaster Depot, is now a consulting engineer, P. O. Box 996, Longview, Wash.

New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

O. William Berglund, Project Supervisor, The Commonwealth Engineering Company of Ohio, Dayton, Ohio, a 1930 graduate of Tri-State College.

Malcolm S. Burgess, Partner and General Manager, Burgess, Washington Clays Ltd., Sandersville, Georgia.

Robert D. Duncan, Research Chemist, Canadian International Paper Co., Gatineau, P. Q., Canada, a 1941 graduate of McGill University.

Richard Feibelmann, General Manager, The Aktivin Corp., New York, New York, a 1907 graduate of the University of Munich.

James B. Brown, Central Technical Department, Crown-Zellerbach Corp., Camas, Washington, a 1931 graduate of Oregon State Agricultural College.

Christopher A. Cusack, Chief Engineer and Assistant General Manager, The Clondalkin Paper Mills, Dublin, Ireland, a 1935 graduate of University College, Dublin.

Jacob I. Fisher, Chemist, Riegel Paper Corp., Milford, New Jersey, a 1944 graduate of Lafayette College.

Howard C. Graham, Assistant to Technical Director, Crown-Zellerbach Corp., Camas, Washington, a 1933 graduate of the University of Washington.

Robert F. McDonnell, Mall Manager, Tileston & Hollingsworth Co., Hyde Park, Massachusetts.

Donald H. Newcomb, Chemist, Riegel Paper Corp., Milford, New Jersey, a 1937 graduate of Pennsylvania State College.

Lynn E. Rolig, Chemist, The Ohio Boxboard Co., Rittman, Ohio, a 1942 graduate of the University of Minnesota.

Thomas H. Rutt, Control Chemist Riegel Paper Corp., Warren Mill, Riegelsville, New Jersey, a 1934 graduate of Lafayette College.

S. Michael Scaletta, Laboratory Technician, International Paper Co., Niagara Falls, New York.

Everett Uebrick, Chief Chemist, Port Huron Sulphite and Paper Co., Port Huron, Michigan.

Paul K. Wolper, Research Chemist, Riegel Paper Corp., Milford, New Jersey, a 1938 graduate of Lafayette College.

I-Chi Yu, Chinese Technical Trainee, Hollingsworth & Whitney Co., Mobile, Alabama, a 1941 graduate of National Southwest Associated University.

Paper and Paper Stock Imports At New York and Other Ports

NEW YORK IMPORTS

WEEK ENDING JULY 27, 1946

SUMMARY

Newsprint	12,336 rolls
Decalcomanias	4 cs.
Decalcomania Paper	83 cs.
Tissue Paper	5 cs.
Filter Paper	7 cs.
Photo Paper	7 cs.
Tracing Cloth	35 cs.

NEWSPRINT

H. G. Craig Co., Inc., Kermic, Donnacona, 400 rolls.

N. Y. World Telegram, Sandland, Cornerbrook, N. F., 686 rolls.

N. Y. Sun, Sandland, Cornerbrook, N. F., 515 rolls.

Clinton Paper Corp., Sandland, Cornerbrook, N. F., 451 rolls.

H. G. Craig Co., Inc., A.C.D., Donnacona, 385 rolls.

News Syndicate Co., W. Maclay, Baie Comeau, Que., 2971 rolls.

H. G. Craig Co., Inc., Donpaco, Donnacona, 360 rolls.

H. G. Craig Co., Inc., Newscarrier, Donnacona, 399 rolls.

N. Y. Journal American, Markland, Liverpool, N. S., 871 rolls.

N. Y. Tribune, Markland, Liverpool, N. S., 1673 rolls.

N. Y. World Telegram, Markland, Liverpool, N. S., 606 rolls.

Brooklyn Eagle, Inc., Markland, Liverpool, N. S., 535 rolls.

Washington Post, Markland, Liverpool, N. S., 2095 rolls.

Alexandria Gazette, Markland, Liverpool, N. S., 21 rolls.

H. G. Craig Co., Inc., G.T.D., Donnacona, 368 rolls.

DECALCOMANIAS

Sellers Transportation Co., Fort Musquarro, Liverpool, 4 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Chagres, Liverpool, 83 cs. (simplex & duplex)

TISSUE PAPER

B. F. Drakenfeld & Co., Chagres, Liverpool, 5 cs. (pottery).

FILTER PAPER

H. Reeve Angel & Co., Inc., American Importer, London, 7 cs.

PHOTO PAPER

(———), American Importer, London, 7 cs.

TRACING CLOTH

E. Dietzgen & Co., Fort Musquarro, Liverpool, 13 cs. (bleached cotton).

Keuffel & Esser Co., Fort Musquarro, Liverpool, 22 cs. (bleached cotton).

RAGS, BAGGINGS, ETC.

W. J. Green & Co., Inc., Exporter, Alexandria, 160 bls. string waste; 160 bls. new burlap cuttings.

A. W. Fenton Co., Exporter, Alexandria, 46 bls. new cotton cuttings.

E. J. Keller Co., Inc., Exporter, Alexandria, 169 bls. new burlap strips; 71 bls. cotton waste.

C. Comiter Co., Exminster, Bombay, 100 bls. cotton waste.

Cecil Kutz, Exminster, Bombay, 150 bls. cotton waste.

S. L. Ayers, Exminster, Bombay, 250 bls. cotton waste.

Riverside Mills, Exminster, Bombay, 100 bls. cotton waste.

Tradesmans National Bank Trust Co., Fort Musquarro, Liverpool, 389 bls. cotton waste.

(———), Fort Musquarro, Liverpool, 53 bls. paperstock; 82 bls. new wool rags; 12 bls. wool thread waste; 5 bls. wool rags.

J. Eisenberg, Inc., George Leonard, Liverpool, 11 bls. wool rags.

American Cotton Products Co., Yvonne, Santos, 113 bls. cotton pickers.

Darmstadt Scott & Courtney, Delftdyk, Antwerp, 233 bls. jutewaste.

A. W. Fenton Co., Delftdyk, Antwerp, 210 bls. old dark cottons.

OLD ROPE

W. Steck & Co., Inc., Exminster, Calcutta, 116 bls. old hemp rope cuttings.

(———), Exminster, Calcutta, 116 bls. old hemp rope cuttings.

GLUESTOCK, ETC.

J. Gorver, Cape San Lucas, Barranquilla, 166 rolls gluestock.

E. J. Lang, Noonday, Buenos Aires, 85 bls. gluestock.

Darmstadt Scott & Courtney, George Leonard, Liverpool, 199 bags hide cuttings.

CASEIN

Tupman Thurlow & Co., Ogna, Buenos Aires, 3000 bags ground lactic casein.

(———), Ogna, Buenos Aires, 6000 bags casein.

Bankers Trust Co., Ogna, Buenos Aires, 500 bags casein.

Sheffield Farms Co., Inc., Noonday, Buenos Aires, 1000 bags ground lactic casein, 50,000 kilos.

Paul A. Dunkel & Co., Inc., Noonday, Buenos Aires, 834 bags casein, 50,040 kilos.

WOODPULP

Price & Pierce, Ltd., Bernhard Ingelsson, Wallvik, 12,000 bls. dry sulphate pulp.

ALBANY IMPORTS

WEEK ENDING JULY 27, 1946

Cellulose Sales Co., Bernhard Ingelsson, Stugsund, 5050 bls. air dry sulphite.

Elof Hansson, Bernhard Ingelsson, Stugsund, 1980 bls. sulphite.

Pagel Horton & Co., Inc., Bernhard Ingelsson, Husum, 11,278 bls. dry sulphite.

PHILADELPHIA IMPORTS

WEEK ENDING JULY 27, 1946

Scott Paper Co., W. Maclay, Baie Comeau, Que., 568 bls. mixed pulp, 101 tons; 16,709 bls. unbleached sulphite, 2885 tons.

Hudson Pulp Registers Three Million Issue

PHILADELPHIA—Hudson Pulp & Paper Co., of New York last week registered with the Securities and Exchange Commission $3,000,000 principal amount of sinking fund debentures, due July 1, 1969, the coupon rate and offering price of which will be supplied by amendment. Lee Higginson Corp. is the principal underwriter.

Proceeds from the sale of the debentures, together wtih the proceeds from the sale last March of 100,000 shares of 5 percent cumulative preferred stock, series A, $25 par value, and treasury funds, will be used to finance the construction of a kraft pulp and paper mill, outside Palatka, Fla., at a net total estimated cost of $6,500,000.

Sutherland Earnings Up

KALAMAZOO—Net earnings of Sutherland Paper Company for the six months ending June 30 were $734,071, compared with $277,141 for the corresponding period of 1945. The earnings were equal to $2.13 per share of common stock after preferred dividends, compared with earnings equal to 96 cents in the corresponding six-month period a year ago.

Upson Closes Entire Plant For Two-Weeks Vacation

LOCKPORT, N. Y.—Pioneers nationally in the now widely-prevalent custom of vacations with pay for all workers, The Upson Company, fiber wallboard manufacturer, has closed its Lockport plant, except for a skeleton maintenance force, for the two-week period commencing Monday, July 29th. This will be the twenty-fifth consecutive year that The Upson Company has provided a standard vacation period for all its workers in both plant and offices.

Marathon Stages Family Picnic

MENASHA, Wis.—Marathon Corporation had its first picnic in five years for employes and their families at Smith park here Saturday, July 27, with the outing being dedicated to the 575 employes of the Menasha plant who were in military service. The picnic began in the morning and lasted until midnight. An acrobatic exhibition was a feature, and athletic games and contests were held throughout the day.

Week's Record of Trends In The Pulp and Paper Market

Office of the PAPER TRADE JOURNAL,
Wednesday, July 31, 1946

No immediate let-up in the shortage of paper and paperboard is expected according to latest reports from the Department of Commerce. Supplies in the second quarter 1946 were estimated at about 4,000,000 short tons at annual rate of consumption requirements. Third quarter requirements are expected to be about the same as those in the second quarter with production somewhat lower. Between 185,000 and 190,000 tons of domestic newsprint capacity is scheduled to be diverted to the output of other classes of paper by the end of this year. The change-over is already under way and the tight newsprint supply situation is not expected to improve in the near future. Low imports of wood pulp from Sweden in May and June is the chief reason for anticipated reduction in third quarter paper and paperboard output.

This situation has resulted in heavy withdrawals from wood pulp inventories by producers who depend on imported pulp. Some paper mills are already faced with the necessity of curtailing production because of inadequate supplies of overseas pulp. Imports of wood pulp from overseas during the next few months must average about 100,000 tons monthly if domestic mills are to fill current needs and build up inventories to take care of the winter months when overseas shipments are normally small. The trend toward integrating mill and converting operations is reducing the quantities of paper and paperboard on the open market. Publishers are purchasing paper mills to insure themselves a source of printing paper. Paperboard mills are buying box plants or otherwise expanding their plant facilities to include this type of operation. Building board and other paper-consuming manufacturers are purchasing paperboard mills. Moreover, there is a growing tendency for paper mills to shift from the manufacture of unprofitable or low profit products to more profitable grades. Thus, buyers of low grade papers are having increasing difficulty in filling their needs.

Loss in domestic newsprint capacity resulting from diversion to other production will be compensated by 150,000 tons of new newsprint capacity which will be installed in the South by the end of 1947 or early 1948 and increased newsprint producing capacity in Canada and Newfoundland. Most Canadian mills have been working at close to practical capacity during the past few months. Maintenance of the present rate of output would increase Canadian production during the second half of the year by 60,000 tons above the total of the first six months. Production of newsprint in Newfoundland is at about prewar levels and a large percentage of this is being exported to the U. S.

The index of general business activity for the week ended July 20 rose to 136.4 from 131.6 in the previous week, compared with 139.3 for the corresponding week in 1945. The index of paperboard production fell to 155.6 from 156.1 in the previous week, compared with 154.0 for the corresponding week in 1945.

Paper production for the week ended July 20 was estimated at 102.8 per cent, compared with 95.2 for the preceding week, with 89.8 for the corresponding week in 1945, with 91.2 for 1944, with 90.1 for 1943, and with 79.2 per cent for the corresponding week in 1942.

Paperboard production for the week ended July 20 was 94.0 per cent of capacity, compared with 87.0 per cent for the preceding week, with 96.0 for the corresponding week in 1945, with 94.0 for 1944, with 97.0 for 1943, and with 74.0 per cent for the corresponding week in 1942.

Wood Pulp

Sales representatives of Swedish pulp producers and shippers received word that prices on kraft would be $92 per ton ex-dock Atlantic coast port and $97.50 on sulphite, providing there is no revival of OPA; and $87.40 and $93.40 delivered American mills if the prices are revived. The higher figures are said by the Swedish shippers to be the actual world market prices, the lower ones the advance compensating for the 15 per cent increase in the Swedish krona. The new highs apply to all deliveries since June 30. New on-dock basis providing OPA ceases to hold power, brings trade customs back to pre-war normal.

Rags

Current rises in foreign exchange are expected to spread to South America from which considerable rag stock has been shipped such as the Argentine now offered. Quotations on dark cottons are presently $75 to $80 dock; although mill buyers only offer around $70 to $72. Meantime the domestic rag market remains steady with classification stock at ceiling levels, and heavy wipers up to $52 to $55 per ton. These continue to be bought in a one to three ratio to classification stock.

Demand for new cotton cuttings is very keen and there is continued pressure in some quarters to get more than 7.25c delivered for white cuttings; 9c or 10c has been mentioned as the price that mills could afford to pay and still be no higher than they have granted for inferior stock not under ceilings. However, mill buyers think differently. They insist their costs of cotton fibers are an average of what they paid for cuttings and for cotton sweeps and virgin cotton under the subsidy plan, some 8.50c per pound. In that average might also be computed the price paid for some such items as white threads around 11.50c.

Old Rope and Bagging

Market for old rope is unchanged at 4.75c per pound for large sisal and 5.75c for Manila. Mixed strings are steady, some sales reported at 2c per pound. Mixed strings for fibre making sold "as is" continue around $30 per ton shipping point. Soft jutes are quoted around 5c.

Scarce mill run gunny is offered at $4.25 delivered in northeast, and $4.50 delivered southeast. British gunny is offered at $4.25 per 100 pounds ex-dock. Scrap burlap continues easier though dealers tend to be bullish on the long range point of view. One paper maker placed a small order for scrap burlap at $4.50.

Mill run bagging, mixed gunny and burlap continues firm at southern shipping points. It is difficult to buy carloads under $3.75 shipping point and $4 is asked for some lots. It is the gunny that stiffens the value of this material. Dealer buying prices are steady in the northeast, not less than $3.50 for small lots of good bagging and $3.75 or more for larger quantities. Dealers regard the British loan as a bull argument. It will they believe stimulate exports of cotton, and export packing involves gunny, also burlap to some extent.

Waste Paper

New York is a sensitive market to oversupply, and the continued labor troubles which restricts demand at nearby board mills has created serious problems for some dealers, resulting in offerings to other dealers, even to mills below ceiling. However, that tendency has stopped since heavy export commitments from New York and other ports have stiffened dealer attitude toward mixed news and corrugated; though corrugated is not involved in foreign sales.

News is far from being in the same oversupply as mixed paper therefore export talk is regarded with concern by board mills. Corrugated is becoming steadier at $29 per ton ceiling, though the loading charge of $2 per ton adopted by OPA just before it expired is not being paid. Advances in Canadian pulp prices have helped the waste paper market and loading charges are paid for higher grades such as kraft, shavings and envelope cuttings.

Ft. Wayne Reports Income

Fort Wayne Corrugated Paper Company for six months ended on June 30 reported net income, $563,967, equal to $1.94 a share on the common stock, compared with $163,385, or 74 cents a share, for the first half of 1945.

PAPER TRAVELS IN STEEL STRAPPING

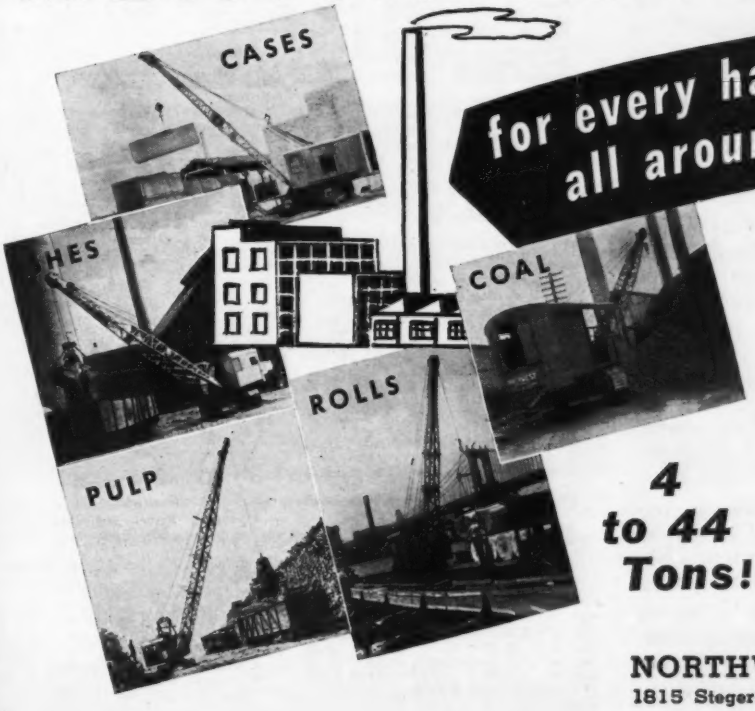
Safer! Quicker!

Paper is fragile but reams of paper, piled on skids and compressed into one compact package with steel strapping, are ready to go places . . . and get there in perfect condition. Then car-band these skids of paper into units and protection is multiplied, handling time reduced. Just another case of what steel strapping and modern shipping methods can do for hard-to-ship products.

Stanley Steel Strapping makes shipping quicker and more economical: gives your customer faster delivery and an easier package to unpackage. The Stanley Steel Strapping System includes tools, reels and accessories.

THE STANLEY WORKS STEEL STRAPPING DIVISION NEW BRITAIN, CONNECTICUT

NORTHWEST CRANES



for every handling problem all around the mill!

4 to 44 Tons!

Your crawler crane is the most versatile yard tool in existence. It goes anywhere and handles anything within its rated capacity.

Your crawler crane is the only type of equipment you can route from job to job and keep busy all day long at any point in the plant. It will handle coal and ashes, bulk dry chemicals, pulpwood finished paper in cases or rolls.

It fits into the problems of any size mill, permits additions to your plant without regard to present handling systems and makes available for storage those odd corners that with other handling equipment are normally regarded as waste space.

There is a size for every problem—4 to 44 tons. Let us send you details on the size that interests you.

NORTHWEST ENGINEERING CO.
1815 Steger Bldg., 28 E. Jackson Blvd., Chicago 4, Ill.

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL,
Wednesday, July 31, 1946.

BLANC FIXE—Active demand reported. Pulp is currently quoted at $40 per ton, in barrels, at works; the powder is currently quoted at $60 per ton, f.o.b. works.

BLEACHING POWDER—Demand reported strong in tight market. Supply situation is reported favorable with containers a bit easier to get. Quotations are unchanged. Prices on bleaching—powder range from $2.50 to $3.10 per 100 pounds, in drums, car lots at works.

CASEIN — Prevailing prices on processed acid-precipitated casein are as follows: 10,000 pounds or more, 33 cents per pound; 2,000 pounds 33¼ cents per pound; less than 2,000 pounds, 33¾ cents per pound, f.o.b. shipping point.

CAUSTIC SODA—Cutback production reduces stocks, while very heavy demand continues. Market tight with demand above output. Solid caustic soda is quoted at $2.30 per 100 pounds; flaked and ground is quoted at $2.70 to $2.95 per 100 pounds.

CHINA CLAY—Current demand continues fair to good. Quotations remain unchanged. Supply good. Domestic filler clay is currently quoted at from $8.50 to $9 per ton; coating clay is quoted at from $12 to $22 per ton, at mine. Imported clay is quoted at from $22 to $25 per long ton, ship side.

CHLORINE—Demand remains heavy, but some improvement has been noted. Quotations unchanged. Chlorine is currently quoted at $2.00 to $2.25 per 100 pounds, in single unit tank cars, f.o.b. works.

ROSIN—Demand continues moderate. "G" gum rosin is quoted at $6.95 per 100 pounds, in barrels, at Savannah; "FF" rosin at $6.90 per 100 pounds, in barrels, at New York; seventy percent gum rosin at $7.00 per 100 pounds, f.o.b. works.

SALT CAKE—Increasingly heavy demand with current inventories low. Prices remain unchanged. Domestic salt cake is quoted at $15 per ton, in bulk. Chrome salt cake is quoted at $16 per ton. All prices in car lots, f.o.b. shipping point.

SODA ASH—Over-all demand is reported active. Market remains tight with demand above output. Orders allocated to equalize distribution. Quotations continue unchanged. Current prices, car lots, per 100 pounds, are as follows: in bulk, $.95; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Demand exceeding supplies in a light market. Previous orders filled. Starch prices continue unchanged. The pearl grade is quoted at $6.28 per 100 pounds; powdered starch at $6.39 per 100 pounds; all prices in bags; car lots, f.o.b. Chicago.

SULPHATE OF ALUMINA — Supplies moderate with demand reported active. Quotations continue unchanged. The commercial grades are quoted at from $1.15 to $1.35 per 100 pounds, in bags, car lots, f.o.b. works. The iron free is currently quoted at $1.75 to $2.00 per 100 pounds, in bags, at works.

SULPHUR—Quotations on sulphur continue to conform to prevailing market prices. Demand moderate. Annual contracts are quoted at $16 per long ton, f.o.b. mines; the prices at Gulf Ports is $17.50 per long ton.

TALC—Prices on talc continue unchanged. Demand steady. Domestic grades are currently quoted at from $16 to $30 per ton at mines; Canadian at $24 to $30 per ton. All prices in car lots.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March, 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

Standard News, per ton—

Roll, contract	*$73.80	@	—
Sheets	75.00	@	—

Kraft—per cwt.—Carload Quantities
Zone A, Delivered

Superstandard Wrapping	*$5.25	@	—
No. 1 Wrapping	*5.00	"	—
Standard Wrapping	*4.75	"	—
Standard bag	*4.75	"	—

* Prices for Standard Wrapping are for 40 lb. base weight; for Standard Bag for 30 lb base weight.

Tissues—Per Ream—Carlots

White No. 1	1.12½	"	—
White No. 1 M. G.	1.10	"	—
White No. 1½	1.00	"	—
White No. 2	.90	"	—
Anti-Tarnish M.F.	1.20	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—

Toilet—1 M. Sheets—Per Case

Unbleached	4.25	"	—
Bleached	5.70	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—

Paper Towels, Per Case—

Unbleached, Jr.	2.20	"	—
Bleached, Jr.	3.20	"	—

Manila—per cwt.—C. l. f. a.

No. 1 Jute	11.25	@	—
No. 1 Manila 35 lb.	6.00	"	7.00

Boards, per ton—

News	*$54.00	@	—
Chip	*54.00	@	—
Sgl. Mla. L1. Chip	*65.00	@	—
White Pat. Coated	*79.00	@	—
Kraft Liners 50 lb.	*74.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—
White, Assorted Items
Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1	$39.10@$46.00	$40.25@$47.25
100% Rag	32.20 " 37.75	33.35 " 39.25
85% Rag	.... "	29.90 " 35.00
75% Rag	23.00 " 27.00	24.15 " 28.25
65% Rag	.... "	22.80 " 27.75
50% Rag	18.70 " 22.75	19.90 " 24.25
25% Rag	16.40 " 20.00	17.55 " 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—
White, Assorted Items
Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$10.55@$12.75	$11.70@$14.25
No. 2	9.65 " 11.75	10.80 " 13.25
No. 3	9.20 " 11.25	10.35 " 12.50
No. 4	8.90 " 10.75	10.05 " 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—
White, Cased Paper
Delivered in Zone 1:

No. 1 Glossy Coated	$13.65@$15.50
No. 2 Glossy Coated	12.40 " 14.00
No. 3 Glossy Coated	11.60 " 13.25
No. 4 Glossy Coated	11.15 " 12.75
No. 1 Antique (watermarked)	10.25 " 11.75
No. 2 Offset	9.60 " 11.00
A Grade E. F.	9.35 " 10.75
A Grade S. & S. C.	9.60 " 11.00
B Grade E. F.	8.85 " 10.25
B Grade S. C.	9.10 " 10.50
C Grade E. F.	8.55 " 9.75
C Grade S. C.	8.80 " 10.00
D Grade E. F.	8.25 " 9.50
D Grade S. & S. C.	8.50 " 9.75

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers' Prices, Less Freight. Not Exceeding OPA Allowances.

Bl. Softwood Sulphite	$94.00
Unbl. Softwood Sulphite	82.00
Bl. Hardwood Sulphite	91.50
Unbl. Hardwood Sulphite	79.50
Bl. Glassine Sulphite	97.00
Unbl. Glassine Sulphite	86.00
N. Bleached Sulphate	94.00
S. Bleached Sulphate	88.00
N. Semi-Bleached Sulphate	89.00
S. Semi-Bleached Sulphate	83.00
N. Unbl. Sulphate	76.00
S. Unbl. Sulphate	69.50
Bl. Soda	84.00
Unbl. Soda	80.00
Groundwood	58.00

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$12.50
Lake Central	12.50
Southern	15.00
West Coast (in area)	9.50
West Coast (out area)	15.50

	50%-80% Air Dry Weight
Northeast	$10.50
Lake Central	10.50
Southern	13.00
West Coast (in area)	8.50
West Coast (out area)	14.50

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$7.50
Lake Central	7.50
Southern	10.00
West Coast (in area)	6.50
West Coast (out area)	12.50

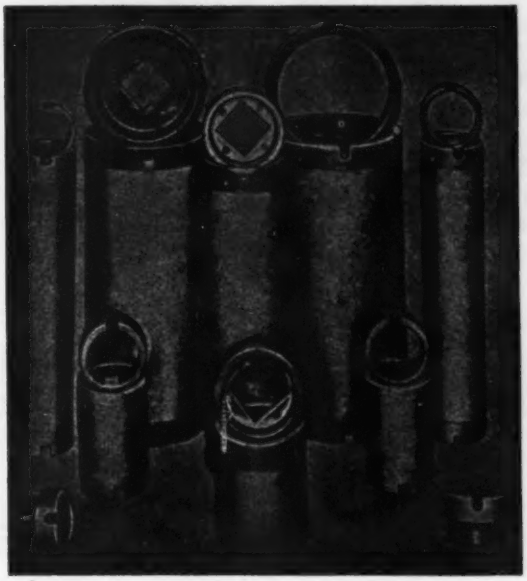
Should freight charges actually exceed these allowances, the difference may be added to the maximum prices

Domestic Rags

New Rags

(Nominal Prices Delivered Mill + 5% Brokerage)

Shirt Cuttings—		
New White, No. 1	7.25 @	Nominal
Silesias No. 1	5.75 "	"
New Unbleached	7.50 "	"
Blue Overall	5.50 "	"
Fancy	3.50 "	"
Washables	3.00 "	"
Bleached Khaki Cutting	4.25 "	"
Unbleached Khaki Cuttings	3.50 "	"



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CAPS

Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

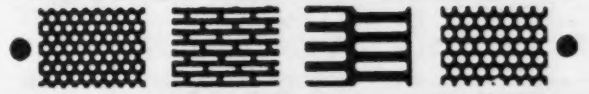
Heavy duty caps with reenforced square hole. This patented feature of reenforcement gives added strength and durability.

CORES

Samples of caps or cores will be gladly submitted

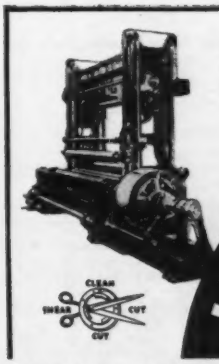
ELIXMAN PAPER CORE COMPANY, INC.
CORINTH, N. Y.

SCREENS
of Perforated Metal



The Harrington & King PERFORATING Co.

5652 Fillmore St., Chicago 44, Ill. 114 Liberty St., New York 6, N. Y.



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Slitters and Roll Winders

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Appleton Felts MAKE GOOD PAPER

APPLETON WOOLEN MILLS
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KOHLER AUTOMATIC WEB TENSION CONTROLS maintain an absolutely constant, uniform unwinding or rewinding tension from start to finish of each roll.

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for the Paper Industry MANHATTAN Condor PRODUCTS
ROLLS — BELTS — V-BELTS
HOSE—ENGINEERED MOLDED GOODS
RAYBESTOS-MANHATTAN, INC.
MANHATTAN RUBBER DIVISION

ROTOGRAVURE PRESSES
for PACKAGE PRINTING PAPER PROCESSING SPECIALIZED PRINTING
ROTOGRAVURE ENGINEERING CO.
DIVISION MILLER PRINTING MACHINERY CO., PITTSBURGH,
299 MARGINAL ST. EAST BOSTON, MASS

Old Rags

White, No. 1—			
Repacked	3.80	@	Nominal
Miscellaneous	3.20	"	"
White, No. 2—			
Repacked	2.90	"	"
Miscellaneous	2.65	"	"
Thirds and Blues—			
Repacked	2.20	"	"
Miscellaneous	1.30	"	"
Roofing Rags—			
No. 1	1.55	"	"
No. 2	1.45	"	"
No. 3 (bagging)	1.35	"	"
No. 4	1.35	"	"
No. 5A	1.35	"	"
Old Manila Rope	5.75	"	"

Foreign Rags

(All Prices Nominal)

New Rags

New Dark Cuttings	6.00	@	Nominal
New Mixed Cuttings	6.50	"	"
New Light Silesias	5.75	"	"
Light Flannelettes	5.75	"	"
New White Cuttings	12.00-14.00		
New Light Oxfords			Nominal
New Light Prints	8.00-10.00		

Old Rags

No. 1 White Linens	8.50	@	Nominal
No. 2 White Linens	7.50	"	"
No. 3 White Linens			Nominal
No. 4 White Linens	3.25	@	Nominal
No. 1 White Cotton	4.75	"	"
No. 2 White Cotton	3.75	"	"
No. 3 White Cotton	3.00	"	"
No. 4 White Cotton	2.20	"	"
Extra Light Prints	2.40	"	"
Ord. Light Prints	5.50	"	"
Med. Light Prints	4.75	"	"
Dutch Blue Cottons			Nominal
French Blue Linens			Nominal
Checks and Blues	4.00	"	"
Linsey Garments	4.00	"	"
Dark Cottons	3.60	"	"
Old Shopperies	3.35	"	"
New Shopperies	3.50	"	"
French Blues			Nominal

BAGGING

(Prices to Mill, f.o.b. N. Y.)

Gunny No. 1—			
Foreign	4.00	@	Nominal
Domestic	3.30	"	"
Wool Tares, light	4.00-4.75		
Wool Tares, heavy	4.50	@	Nominal
Bright Bagging	3.50	"	"
Manila Rope—			
Foreign			Nominal
Domestic	5.75	@	Nominal
Jute Strings	4.50	"	"
No. 1 Sisal Strings	3.00	"	"
Mixed Strings	1.50	"	"

Waste Paper

Nominal Prices to Mills

(Dollars Per Ton)

F.o.b. New York, Baled

No. 1 Hard White Envelope Cuts, one cut	$67.50	@	—
No. 1 Hard White Envelope Cuts	62.50	"	—
No. 1 Hard White Shavings, unruled	57.50	"	—
No. 1 Hard White Shavings, ruled	50.00	"	—
Soft White Shavings, one cut	57.50	"	—
No. 1 Soft White Shavings	50.00	"	—
Soft White Shavings, Misc.	43.00	"	—
No. 1 Fly Leaf Shavings	33.50	"	—
No. 2 Fly Leaf Shavings	22.50	"	—
No. 1 Groundwood Fly Leaf Shavings	25.00	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	18.50	"	—
Mixed Colored Shavings	15.50	"	—
Mixed Groundwood Colored Shavings	18.00	"	—
Overissue Magazines	33.50	"	—
No. 1 Heavy Books & Magazines	38.50	"	—
Mixed Books	22.00	"	—
No. 1 White Ledger	46.00	"	—
No. 2 Mixed Ledger, colored	40.00	"	—
New Manila Envelope Cuttings, one cut	57.50	"	—
New Manila Envelope Cuttings	53.00	"	—
Extra Manilas	39.00	"	—
Mixed Kraft, Env. & Bag Cuttings	55.00	"	—
Kraft Envelope Cuttings	65.00	"	—
Triple Sorted, No. 1 Brown Soft Kraft	50.00	"	—
New 100% Kraft Corrugated Cuttings	45.00	"	—
No. 1 Assorted Old Kraft	35.00	"	—
New Jute Corrugated Cuttings	18.50	"	—
Old 100% Kraft Corrugated Containers	35.00	"	—
Box Board Cuttings	14.50	"	—
White Blank News	33.00	"	—
Overissue News	22.00	"	—
No. 1 News	20.00	"	—
No. 1 Mixed Paper	19.00	"	—
Old Corrugated	28.00	"	—
Mill Wrappers	22.00	"	—

Twines

All Prices Nominal

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	@	—
White Hemp	.21	"	—
Fine Polished—			
Fine India	.26	"	—
Unpolished—			
Box	.17¼	"	—
Paper Makers	.17	"	—
Tube Rope	.19	"	—
Wall Paper	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope	.19	"	—
Cotton	.25	"	—
(Hard Fiber)			
Medium Java	.18	"	—
Mex. Sisal	.16	"	—
Manila	—	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill)

Shirt Cuttings—	
New White No. 1	.07¼
New White No. 2	.05¼
Light Silesias	.05¼
Black Silesias, soft	.03¼
New Unbleached	.07½
Washable Prints	.04¼
Washable No. 1	.03
Blue Overall	.05½
Cottons—According to grades—	
Washable Shredding	.01¾
Fancy Percales	.04¼
New Black Soft	.03¼
Khaki Cuttings—	
Unbleachable Cotton Cuttings	.03½
Bleachable Cotton Cuttings	.04¼
Men's Corduroy	.03½
Ladies' Corduroy	.03
Cottonades	.03¼

Domestic Rags (Old)

White No. 1—Repacked	3.80	@	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
White No. 2—Repacked	2.90	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)			Nominal
Roofing Stock—			
Foreign No. 1			Nominal
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny No. 1—			
Foreign			Nominal
Domestic	3.00	@	3.50
No. 1 Clean Bright—			
Sisal Strings	.04	"	—
No. 2 Clean Bright—			
Sisal Strings	.03	"	—
Sisal Jute	.02½	"	.02¾
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares, heavy	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
Soft White Shavings, one cut	2.50	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Ledger, colored	2.00	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.40	"	—
Overissue News	1.00	"	—
No. 1 News	1.00	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices, Baled

No. 1 Hard White Shavings, unruled	2.87½	@	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White and Colored Tabulating Cards	2.25	"	—
Ground Wood Tabulating Cards	1.35	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Overissue News	1.10	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign			(nominal)
Domestic	2.75	@	2.90
Sisal Rope No. 1	*4.75	"	—
Sisal Rope No. 2	* —	"	4.00
Mixed Rope	1.60	"	—
Transmission Rope—			
Foreign			(nominal)
Domestic	2.75	"	3.00
Manila Rope—			
Foreign			(nominal)
Domestic	5.75	"	—
Soft Jute Rope	4.50	"	5.00
Jute Carpet Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign			(nominal)
Domestic	3.00	"	3.25
South America	—	"	3.25
Wool Tares—			
Foreign			(nominal)
Domestic	4.25	"	—
Aust. Wool Pouches	—	"	3.65
New Zealand Wool Pouches	—	"	3.50
New Burlap Cuttings	4.75	"	5.00
Heavy Baling Bagging	4.00	"	4.25
Paper Mill Bagging	2.50	"	3.00
No. 2 Roofing Bagging	1.35	"	—

* OPA Maximum Prices.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04½	@	.04¾
Fancy Percales	.04¼	"	.05
New White No. 1	.06¾	"	.07
New Light Flannelettes	.05½	"	.06
Canton Flannels, Bleached	.06	"	.06¾
Underwear Cutters, Bleached	.06¼	"	.06¾
Underwear Cutters, Unbleached	.05¾	"	.06
Silesias No. 1	.06	"	.06¾
New Black Silesias	.03	"	.03¾
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached	.06½	"	.06¾
Blue Cheviots	.05½	"	.06
Fancy	.02¾	"	—
Washable	.02¾	"	—
Khaki Cuttings	.02¾	"	.03
O. D. Khaki	.03½	"	.03¾
Corduroy	.03¼	"	.03½
New Canvas	.06¼	"	.06¾
B. V. D. Cuttings	.06¼	"	.06½

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	@	—*
Miscellaneous	3.20	"	—*
White No. 2—			
Miscellaneous	2.65	"	—*
Twos and Blues, Repacked	2.20	"	—*
Old Blue Overalls	2.25	"	2.50
Thirds and Blues, Repacked	2.20	"	—*
Miscellaneous	1.80	"	—*
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—*
No. 2	1.45	"	—*
No. 3	1.35	"	—*
No. 4	1.35	"	—*
No. 5, Quality A	1.35	"	—*
Quality B	1.20	"	—*
Quality C	.95	"	—*
Old Manila Rope	5.75	"	—*

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices, Baled

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.30	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
No. 1 Roofing Rags	1.55	"	—
No. 1 Roofing Bags	1.45	"	—

CHAS. T. MAIN, INC.
Consulting Engineers
201 Devonshire St., Boston, Mass.
PULP AND PAPER MILLS
Steam, Hydraulic and Electrical Engineering
Process Studies, Design, Specifications and Engineering Supervision
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Use All Purpose Ball Bearing
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TRADE-MARK
POSITIVE
Reg. U. S. Pat. Off.
High Speed Disc Refiner
THE BAHR BROTHERS MFG. CO.
MARION, INDIANA, U.S.A.

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If You Contemplate Extension or Modernization
Consult
MERRITT-CHAPMAN & SCOTT CORP. 17 BATTERY PLACE NEW YORK 4, N. Y.
PAPER MILL BUILDERS

THE CARTHAGE MACHINE COMPANY
CARTHAGE, NEW YORK
Manufacturer of
Machinery and Equipment for Mechanical and Chemical Pulp Mills and Special Machinery

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Consulting Engineers
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Hardy S. Ferguson.....Member A.S.C.E., A.S.M.E., E.I.C.
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Consultation, reports, valuations, and complete designs and engineering supervision for the construction and equipment of
Pulp and Paper Mills and other Industrial Plants
Steam and Hydro-Electric Power Plants
Dams and Other Hydraulic Structures

ALUMINUM FLAKE
HIGH GRADE KAOLIN FILLER
FOR PAPER
ALUMINUM FLAKE COMPANY, INC.
KENMORE STATION AKRON 14, OHIO

THE RUST ENGINEERING COMPANY
Engineers and Constructors
Pittsburgh, Pennsylvania
Complete Service
for
PULP AND PAPER MILLS—PLANTS AND FACILITIES.
DESIGN, CONSTRUCTION, MODERNIZATION

THE MAYER MACHINE COMPANY, INC.
Manufacturers of
Paper Coating Machines
1155 Scottsville Road, Rochester 11, N. Y.
Waxing & Oiling, Carbon, Laboratory, Flat Beam Converting and Measuring and Roadmarking.

HAVING "HOT WEATHER" TROUBLE?
You can get uniform sizing regardless of stock or water temperatures or chemical impurities
PROCESS ENGINEERS
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THE CORROSION RESISTANT ALLOY
CAST • ROLLED • FABRICATED
for all equipment exposed to corrosion by sulphite acids
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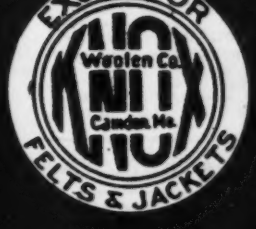


"EXCELSIOR" FELTS
Manufacturers of Felts of Superior Quality
for Every Grade of Pulp and Paper
KNOX WOOLEN COMPANY
CAMDEN, MAINE

The CLEARING HOUSE

HELP WANTED—5c a word. Double rate for heavy face type. Minimum charge $1.25.
SITUATIONS WANTED—5c a word, double rate for heavy face type. Minimum charge $1.25. If repeated ⅓ rate will be charged for each consecutive repetition.

FOR SALE—5c a word. Double rate for heavy face type. Minimum charge $1.25.
WANTED—5c a word. Double rate for heavy face type. Minimum charge $1.25.
OPPORTUNITIES—5c a word. Double rate for heavy face type. Minimum charge $1.25.
Classified advertising space may also be purchased at $3.00 per single column inch.

All classified advertisements are payable in advance. If box number is used—35 cents additional.
Address replies to advertisements appearing under Box numbers in care of
PAPER TRADE JOURNAL, 15 West 47th Street, New York 19, N. Y.

Copy for Classified Advertisements must be in our office on Monday preceding publication

HELP WANTED

Superintendent — Mechanical Engineer preferred—to take charge of large Paper Bag Manufacturing Plant in N. Y. City. Prefer man who has had experience in this line. Age 35 to 45 years. Must be capable of handling labor, etc.
State qualifications and salary required. Excellent future for right man.
Address Box 46-462 care Paper Trade Journal. A-8

Printing department supervisor required immediately by converter in New York metropolitan area. Give full information in first letter. Reply to Box 46-487 Paper Trade Journal, 15 West 47th Street, New York 19, N. Y.
A-8

PROCESS ENGINEER
Wanted
With wide experience in pulp and paper making processes. Must be able to develop flow diagrams and specify related equipment. Excellent opportunity for the right man. Please furnish complete experience record.
Address Box 46-261 care Paper Trade Journal. TF

SALARIED POSITIONS
$2,500-$25,000. This thoroughly organized confidential service of 36 years' recognized standing and reputation carries on preliminary negotiations for supervisory, technical and executive positions of the calibre indicated. Retaining fee protected by refund provision. Identity covered and present position protected. Send only name and address for details.
R. W. BIXBY, INC.
117 Dun Bldg., Buffalo 2, N. Y.

WANTED
We have an opportunity for a man experienced in the conversion of facial tissue, familiar with the Toali folder, Container Equipment gluers and automatic boxers. Salary is entirely dependent upon how valuable you make yourself to us. Permanent, responsible job. Complete history of your experience and preferably a picture with your reply. Vicinity New York City.
Box 46-427 care Paper Trade Journal. A-15

WANTED—Paper Mill Chemist to fill position of assistant chemist in paperboard mill. Experience in coating desirable. To work on mill problems and research. Location Los Angeles. Give education, age, experience, references and salary expected. Send photograph. Address Box 46-505 care Paper Trade Journal. A-15

HELP WANTED

CHARLES P. RAYMOND SERVICE, INC.
294 Washington St., Boston, Mass.
Specializing in Paper Mill Personnel
Positions Now Open
Production and mill manager, salary $12,000-15,000 year
Sales Engineering Correspondent, paper mill specialties
Division sales mgr. $7500-10,000 year
Sales training director $7500-10,000 year
Office managers, accountants, comptrollers and assistant comptrollers, purchasing agents and assistant purchasing agents
Master mechanics, plant engineers, draftsmen and designers
Tour bosses
Beater engineers, machine and back tenders
Mechanical or chemical engineer for felt mfg. plant $500-600 month
Technical directors
We invite correspondence (strictly confidential) with paper and pulp mill executives seeking new positions and with employers seeking new personnel. A-1

WANTED
TOUR BOSS
Experienced in Roofing Felt Mill operations, to be trained for Assistant Superintendent job in New Orleans Plant of long established nation-wide organization. Send complete resume giving experience, education, salary expected, etc., to Box 46-483 care Paper Trade Journal. A-8

WANTED
Machine Tenders and Back Tenders, Several Openings on Fourdrinier Machines in Mill Making Light Weight Sulphite Grades. Location Southern New York. Give Details, Age, Family Status and Experience. Address Box 46-489 c/o Paper Trade Journal. A-8

WANTED
Tour Boss, Machine Tenders, Back Tenders, Third Hands, familiar with manufacturing toilet, napkin, facial tissue, in an Eastern mill. Reply to box—46-466 care Paper Trade Journal. S-12

WANTED
Eastern chemical company is in need of a chemist or chemical engineer for research and development work in the field of chemical products for paper mills. Man with graduate training, diversified experience in the paper industry and demonstrated research ability is desired. Excellent opportunities for qualified person. Address reply to Box 46-473 care Paper Trade Journal. A-1

WANTED
Mid-West Pulp and Paper Mill desires Boss Machine Tender or Tour Foreman for fourdrinier machine. Excellent opportunity for advancement for right man. Technical training desirable but not essential. Write Box 46-486 giving full information in first letter, including compensation required. A-8

WANTED — One experienced machine tender familiar with cylinder machines making .009 corrugated, .030 liners to .040 chip board. Mill located in Caracas, Venezuela. Transportation from the States and back furnished. Contract must be for at least a year. State experience and salary desired. Address Box 46-502 care Paper Trade Journal. A-15

HELP WANTED

ENGINEER-DESIGNER
A splendid opportunity for someone with experience with a will to advance. The position is with a smaller company making paper machinery which is growing fast and willing to pay well. Address Box 46-509 care Paper Trade Journal. A-15

WANTED
Engineer capable of taking complete charge of Power Plant in a Paper Mill located in the South.
Must be well experienced in boiler and turbine generator operations and maintenance.
Prefer a Graduate Engineer.
Address Box 46-488 care Paper Trade Journal. A-8

WANTED—Foreman or Superintendent having experience in embossing and embossing machines and methods. Must be able to rebuild, improve and devise. Address Box 46-428 care Paper Trade Journal. A-15

WANTED—Machine Tender experienced in tissues made on cylinder machine. Good wages, steady work, references required. Address Box 46-479 care Paper Trade Journal. A-1

CHIEF CHEMIST to supervise mill control and some development work in paperboard mill and converting plant. Give details of training, experience and salary desired, in first letter. Address Box 46-485 care Paper Trade Journal. A-1

OPPORTUNITY:—For a competent administrator to take complete charge of office with waste buying experience in mill located in Pennsylvania. Accountancy background preferred. Reply stating experience, age, references and salary. Address Box 46-514 care Paper Trade Journal. A-1

MACHINE DESIGNER — Preferably experienced in paper working or similar machinery—5 day week. State age and salary expected. Address Box 46-513 care Paper Trade Journal. A-1

WANTED IMMEDIATELY—Backtender for Fourdrinier Kraft machine 88" width at 600 ft. per minute. Job is steady at 40 hours plus per week. Western Pennsylvania location. Rate $1.20 per hour. Address Box 46-511 care Paper Trade Journal. A-22

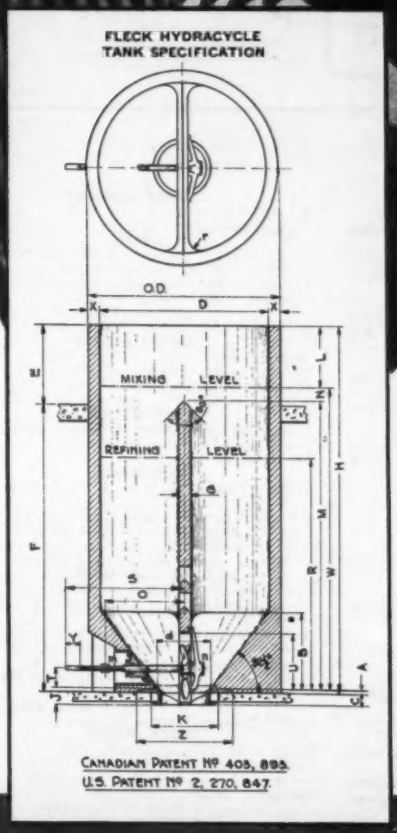
WANTED—Assistant General Superintendent. Excellent opportunity for right man. Kraft, sulphite, groundwood, bleach plant and paper mill in middle west. State age, experience, education and salary expected in first letter. Address Box 46-508 care Paper Trade Journal. A-15

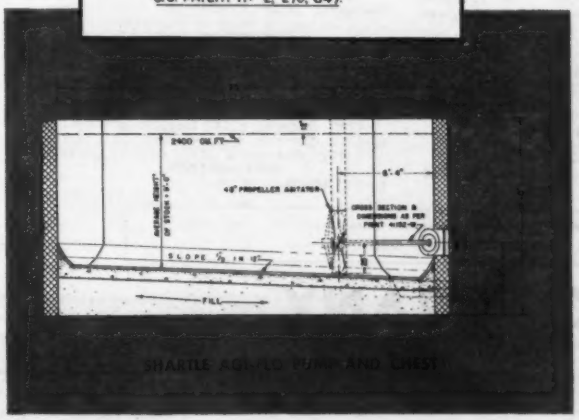
WANTED—TOUR BOSS for prominent New England Mill with two board machines, manufacturing high grade folding box board. Permanent position. Write, giving age, qualifications and salary expected in first letter. Address Box 46-521 care Paper Trade Journal. TF

SITUATIONS WANTED

JUNIOR CHEMIST — Graduate, New York State College of Forestry, Pulp and Paper Department. Also three years training in psychology. Age 24, single. Member TAPPI. Address Box 46-484 care Paper Trade Journal. A-1

Play that Ace!





Yesterday little thought was given to the matter of stock agitation. Today chests and agitators are in the very forefront of mill thought—and rightly so.

It's a big subject—too big to cover in an advertisement. That's why MESSENGER No. 217, out last September, went into the matter exhaustively.

About all we can do here is to show a properly designed Hydracycle tank for propeller agitation and a modern Agi-flo pump and chest layout. Each has its place. Each is highly effective in its place.

No longer need any superintendent lose with deuces and treys when he also holds aces—the opportunity to bring his agitation right up to snuff with either of these two systems, or both, if he needs both.

Your inquiry, please. Also look up your copy of the September MESSENGER, No. 217. Get ready to play that ace.

SHARTLE-DILTS

SHARTLE BROS. MACHINE CO., Middletown, Ohio
DILTS MACHINE WORKS, Fulton, New York
DIVISIONS OF BLACK-CLAWSON CO., HAMILTON, OHIO
ASSOCIATE: ALEXANDER FLECK LIMITED, OTTAWA, CANADA

SITUATIONS WANTED

SITUATIONS WANTED

TECHNICAL DIRECTOR

25 years in responsible charge

Now making SOUTHERN KRAFT ASPHALTING, CEMENT SACK, SATURATING and other converting grades to specifications.

Available on 60 days notice. Salary $12000.

Reply to Box 46-499, c/o Paper Trade Journal.

A-15

SITUATIONS WANTED

AMBITIOUS COLLEGE GRADUATE—Single; 25 years excellent adm. background; veteran; exp. in paper stock; interested in permanent position with future in waste paper or paper industry. Illini Hall, 725 S. Wright St., Room 335, Champaign, Illinois. A-1

CONVERTING PLANT or Finishing Dept. Mgr. Years practical experience, various grades, Sheeting, Rewinding, Cutting, Packing, Shipping, Clerical, Scheduling. Address Box 46-490 care Paper Trade Journal. A-15

PRACTICAL MASTER MECHANIC and a Paper Maker. Thirty years experience in maintenance, installation, layouts on cylinders and fourdrinier equipment. Making kraft, board, tissue, waterleaf, parchment and rag stock. Desire a permanent connection. Address Box 46-400 care Paper Trade Journal. A-15

MILL REPRESENTATIVE covering the jobbing and direct trade for the past 15 years from Pennsylvania through to the Carolinas, now desires to operate over the same terrftories with 2 or 3 non-conflicting lines. What have you to offer? Address Box 46-412 care Paper Trade Journal. TF

POSITION WANTED — Superintendent practical papermaker, 30 years experience in the manufacture of folding boxboard and cylinder specialties. Address Box 46-459 care Paper Trade Journal. A-1

FOR SALE

BEATERS
1—2000 lb. Holyoke-Iron Tub Beater.
2—1200 lb. E. D. Jones (no tubs).
1—1000 lb. Dayton Beater (no tub).
1—1000 lb. Stout & Mills Iron Tub Beater.
1—400 lb. Gavit—iron tub beater.
1—Breaker Beater—Dilts Bandless Roll 62" diameter x 54" face—70 tons daily capacity. Equipped with Shartle Bros. Ragger.
1—Breaker Beater—New Perforated Backfall—48" face roll x 54" diameter—no tub.

CALENDER STACKS
1—5 roll 84" face—Farrel.
1—6 roll—72" face.
1—7-roll 36" Holyoke Machine. (supercalender)

CENTRAP
1—Shartle Brothers Centrap.

COATING MACHINE
1—26" six roll coating machine.

COUCH ROLLS
2—82" face x 12" diameter.

CYLINDER MOULDS
2—30" diameter x 74" face.
2—30" diameter x 54" face.
1—30" diameter x 75" face.
1—36" diameter x 84" face.

DRIVES
4—Smith & Winchester Drives.
1—Moore & White mortise gear drive.
1—D. O. James 75 H.P. Speed Reducer with couplings and motor base. Ratio 2.16 to 1. 900 RPM to 418 RPM.
7—D. O. James Angle Drives—11 to 1—7 to 10 h.p.
2—Reeves Drives—Size 000—Class G (Totally enclosed).
1—Link Belt Drive—Size PE3. (Totally enclosed).
1—Link Belt Drive—Size TE1. (Totally enclosed).

DRYERS
1—48" diameter x 94" face.
1—24" diameter x 84" face. (Baby)
2—36" diameter x 64" face, with frames gears and bearings.
2—25" x 120" (Baby Dryers).
2—30" x 120".
1—48" x 100".
11—30" x 80". (Steel Dryers).
5—24" x 76". (Steel Dryers).
2—36" diameter x 38" face.

ERKENSATORS
2—I. W. E. Erkensators—bronze construction—complete with motors, starters and distributing box.

FLAT SCREENS
1—12 plate Murray Dunbar Flat Screen.
1—4 plate Flat Screen.

JORDANS
1—Noble & Wood Monarch, anti-friction bearings, direct connected to 125 h.p. synchronous motor.
1—No. 2 Miami Jordan.
1—No. 9 Emerson Jordan—for direct connection to a motor.
1—Noble and Wood, Monarch, new fillings.

LABORATORY EQUIPMENT
2—Mullen Testers.

MOTOR
1—25 h.p. motor, including starting equipment.

PRESS ROLLS (Rubber Covered)
1—27½" diameter x 186" face.
1—26" diameter x 185" face.

PULP EQUIPMENT
1—84" Carthage Chipper (Four Knives).
1—32" three pocket Glens Falls Grinder (for 27" wood).

PULP SCREEN
1—IMPCO centrifugal pulp screen design No. 3.

PULPER
1—Jones Pulper.

PUMPS
1—10 x 11 Connersville Vacuum Pump.
1—10 x 7½ Connersville Vacuum Pump.
1—No. 4 Connersville Vacuum Pump.
1—6 x 2L Connersville Vacuum Pump.
1—No. 7 Sturtevant Vacuum Pump.
1—Buffalo Pump—5500 g.p.m. direct connected to 100 H.P. Motor (50' head).
Various sizes of Centrifugal and Plunger Pumps. Write us regarding your particular requirements.

RAG CUTTER
1—Taylor Stiles, 14". Little Giant.

REELS
1—72" Downingtown Expansion Reel.
1—2 Bowl Reel — 112" face — bowls 20" diameter.
1—2 Bowl Reel—110" face.
1—Set Stack Reels, capacity trim 143".

ROLLS
500—Brass tube—steel tube—rubber covered iron rolls—various sizes.

ROTARY SCREENS
3—Moore & White Rotary Screens (alternating diaphragm type).

SAVEALL
1—Saveall 36" diameter x 96" face cylinder mold. (With iron end vat.)
1—Saveall 36" diameter x 96" face cylinder mold. (With wood vat.)

SCREW PRESS
1—Valley Iron Screw Press.

SCREEN PLATES
36 plates—43 x 11 5/32"—.050 cut—bevel edges.
24 plates—Recently recut .008.
12 plates—Recently recut .035.
Also other sizes and cuts in stock.

SHREDDERS
1—No. 25 CRSE Mitts & Merrill Hog.
1—Gilman Shredder.
1—Waterville Shredder.

SHEETERS
1—84" Finlay Sheeter, Erie Layboy and 9 roll backstand.
1—128" Moore & White Sheeter with layboy.
1—48" Langston heavy duty chopper (this is a combination machine, combining a slitter, scorer, sheeter and chopper.)

SLITTERS AND WINDERS
1—52" Johnstone Slitter & Winder.
1—36" Beck Razor Blade type Slitter & Winder.
1—110" Beloit slitter (slitter attachment only).
1—60" Moore & White Slitter and Winder set for 5/8" slits.
1—60" Moore & White Slitter and Winder set for 7/16" slits.
1—120" Moore & White 4 drum slitter.
1—80" 2 drum Warren Winder.

STOCK PUMPS
1—12 x 20 Triplex Shartle.
1—10 x 20 Duplex Shartle Brothers.
1—10 x 12 open impeller. (All lead).
Numerous other Centrifugal Stock Pumps. Advise as to your requirements.

SUCTION BOX
1—Nash 100" face Suction Box.

VACUUM PUMP
1—#2 Nash Vacuum Pump.

V-BELT DRIVES
1—{23" diameter x 14" face, 10 grooves.
{15" diameter x 14" face, 10 grooves.
1—{32" diameter x 21¾" face, 15 grooves.
{14¾" diameter x 21¾" face, 15 grooves.

WET MACHINE
1—74" Moore & White.

We are always in the market to purchase your surplus or idle machinery. What have you to offer? Wanted Cylinder and Fourdrinier Machines (complete mills).

J. J. ROSS COMPANY

250 Frelinghuysen Ave. Tel.—Bigelow 3-3720 Newark 5, N. J.

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CABLE ADDRESS: JACK ROSS

ROSS PAPER MACHINERY CO.

265 PASSAIC STREET
NEWARK 4, N. J.

CONVERTING
PAPER MAKING EQUIPMENT

NEW, USED, REBUILT
PAPER AND PULP MACHINERY

1—Shartle Brothers 2 cylinders—120" machine. (Can supply four additional cylinders and vats). Machine includes:—2 pairs of baby presses, 3 pairs of primary presses, 2 pairs of main presses, 27 dryers 36" diameter x 115¼" face—3 deck—spare cylinder mould and couch. Drives, stands, line shaft and pulleys. Blue prints available.

AIR HOISTS
2—Two-Ton Ingersoll Rand
2—Five-Ton Ingersoll Rand

ATTRITION MILL
1—Sprout Waldron direct connected to two 20 H.P. motors—3 phase—60 cycle—440 volts.

BEATERS
2—1000 lb. Horne Iron Tub.
1—1200 lb. Holyoke Wood Tub.
4—Valley Iron 750 lbs. Iron Tub Beaters, with Silent Link Belt Drive.

BIRD SCREEN PLATE
28 Plate—60 cut. New condition.

BLOWERS
1—American ball bearing blower, size 17" x 23" for motor drive.
1—American Blower, size 40. For belt drive.

CALENDER DOCTORS
1 set of 16 Warren Doctors 104" face with frames.

CALENDER ROLLS
30 rolls various sizes

CALENDER STACKS
1—6 roll Beloit, 110" face.
2—2 roll Holyoke 36" face.
1—9 roll Moore & White—82" face.

CONVERTING EQUIPMENT
4—Sanitary Napkin Machines. With motors and starters.
1—Bliss Double Head Stitcher.
4—Waterville Grinders.
1—36" Waldron Reeling Machine.
1—39" Dampening Machine.
1—36" Brush Coating Machine.
1—Copper Mixing Tank with agitator—40 gal.
1—Cast Iron Kettle 20" x 24" 2 outlets.

CREPING MACHINE
1—Complete Bagley & Sewall Creping Machine. Dryer 100" face x 40" diameter. Ball bearing equipped. Used 6 months.

CYLINDER MOLDS
2—Impco—84" face—40" diameter with stainless steel face wire.
2—110" face x 36" dia.
1—90" face x 36" diameter—with ball bearings and cast iron end vats.
6—84" face x 36" diameter.
4—Cylinder Molds—cast iron end vats—cylinders 120" face x 36" diameter. Ball bearing.

DANDY ROLLS
2—122" face 10" dia.
1—138" face 12" dia.
1—129" face 9½" dia.

DRIVES
1—Falk 25 h.p.—7.5 to 1.—1750 r.p.m.

DRYER DOCTORS
40—Warren Doctors. Various sizes.

DRYERS
36—28" diam. 98" face 2 deck frames Beloit.
82—48" Dia. x 46" Face, Chromium Plated.
2—24" Dia. x 46" Face.

ELECTRIC HOIST
1—Sprague Electric 3 ton hoist—5 h.p. 3 phase —60 cycle—110 volts.

FLAT SCREENS
1—8 plate Sandy Hill Packer—roller shoes.
1—10 plate Packer screen with scraper.

FOURDRINIER SHAKES
1—Beloit Fourdrinier Shakes.
1—Sandy Hill Bertram Shake. Late type.

FOURDRINIER WET END
1—120" Beloit Fourdrinier Wet End.
1—74" Pusey & Jones Wet End.

GRANITE ROLLS
2—112" face 20" diameter.

HAMMERMILLS
1—American Hammermill—37" anti friction bearing equipped.
1—Jeffrey Swing Hammer size 18"x24"—Type A.
1—Williams 18" Hammermill Ball Bearing.

HOG
1—Mitts & Merrill Hog. Number 5252.

JORDANS
2—E. D. Jones Majestic Jordans, with one new set of fillings for both plugs and shell—belt driven.
2—#2 Miami Jordans—motor driven.

MISCELLANEOUS
2—Nugent Oil Filters (new).
1 Shartle Brothers cast Iron Riffler or Settling Trough, 72' long, 6'7" wide.

MOTORS
1—Westinghouse 200 h.p.—285 r.p.m.—440 volts —3 phase—60 cycle.

PLATERS
2—Holyoke 2 Roll 18" dia. 38" face.

PULLEYS
60—Cone Split and Solid Cast Iron Pulleys. Various Sizes.

PULP EQUIPMENT
1—Economy Electric Pulp Baler.
1—Carthage 4 pocket 27" grinder. Ball bearing equipment
1—120" face Kamyr Press.
1—84" Sumner Disc Barker with motor.

PULPERS
1—Sturtevant Bale Pulper with conveyor & motors used three years.
1—Voith Pulper 20 tons cap.

PUMPS
4—Worthington Pumps 10,000 g.p.m.—35' head. Requires 75 h.p. at 550 r.p.m.
1—DeLaval 6" x 6".
1—DeLaval 1800 g.p.m. 30' Head, 500 r.p.m.—6" Suction—10" Discharge, Ball Bearing—Belt Driven—or for Direct Connection to Motor. Open Impeller.
15—Worthington Close Coupled Centrifugal Pumps. 6" x 6" 650 g.p.m. 28' head. 6 h.p. Star Electric splash proof motor. 1750 r.p.m. 440 volt, 3 ph.-60 cycle, ball bearing.
16—Warren Vertical Pumps. 6" suction. 3" discharge. 135 g.p.m. 80' head. Direct Connected 6 h.p. General Electric motor. 1750 r.p.m. 440 volts, 3 ph.-60 cycle, ball bearing.
1—Warren Close Coupled Centrifugal Pump. 3" suction. 2" discharge. 60 g.p.m. 90' head. 6 h.p. General Electric 1750 r.p.m. 440 volts, 3 ph-60 cycle, ball bearing. All the above pumps and motors are in excellent condition and are of bronze construction.
2—Worthington 3", 2 stage, 200 g.p.m. 224' head. Bronze Ball Bearings.
4—Pusey & Jones Open Impeller, 10" Stock Pumps, Belt Driven.
2—8" Pusey & Jones Open Impeller Stock Pumps, Belt Driven.
1—Worthington 400 g.p.m. 35' head 1750 r.p.m. Ball bearing.
1—15" Buffalo—4000 g.p.m.—70' head. For direct connection to motor.
2—La Bour Company self priming ball bearing pumps. 2½" suction, 2½" discharge. 150 g.p.m.—30" head with extended base for motor.
1—Domestic Pump ball bearing—250 g.p.m., 4" suction, 3" discharge—30' head with extended base for motor.
1—Marlo ball bearing pump—420 g.p.m.—100' head, 4½" suction, 3" discharge. With extended base for motor.

REELS
1—Black-Clawson 2 Bowl—120" face. Takes 60" diameter roll.

REFINERS
2—#1 Claflin Refiners. Bronze construction.

ROLLS
40—Table, Dress, Felt, Wire, Breast and Calender Rolls. Various Sizes.

ROTARY COOKER
1—Rotary Cooker—6' dia. x 21' long—complete with drive.

ROTARY DUSTERS
2—E. D. Jones Steel cage down draft dusters (wing type). 48" diameter—14'6" long.

ROTARY SCREENS
2—#2A Bird with copper vats.
2—#2 Bird with copper vats.
2—#1 Bird with steel vats, lead lined.
1—Moore & White.

RUBBER COUCH
1—82" face x 18" diameter.

RUBBER PRESS ROLLS
1—85" Face—26" Diameter } Used 20 Days
1—88" Face—27½" Diameter }
1—119" Face—19½" Diameter.
1—109" Face—17½" Diameter.
1—120" Face—19" Diameter.
1—118" Face—18" Diameter.
1—129" Face—18" Diameter.
1—107" Face—18" Diameter.
1—106" Face—18¼" Diameter.

SAVEALLS
1—A. D. Wood cylinder 48" dia. 60" face.
1—Dorr Company No. 40 ADKA Saveall 340-440 GPM. Used 1 month.

SCREW PRESS
1—Valley Iron Screw Press. Used 2 years.

SHEETERS
1—90" Beloit Single Knife heavy duty.

SHREDDERS
2—24" Sprout Waldron heavy duty shredders—anti friction bearing equipped.
1—Taylor Stiles Portable Pulp Shredder.

SLITTERS AND WINDERS
82" Warren two drum—fully rebuilt.
1—41" Waldron Slitter and rewinder. Roll embossing attachment.

STUFF PUMPS
1—10" x 20" Shartle triplex.
1—12" x 20" Shartle triplex.
2—4" x 10" Shartle Duplex direct connected to 3 h.p. gear head motors.

SUPERCALENDER STACKS
1—7 roll Norwood 72" face: 4 paper and 3 iron rolls. 1 new spare paper roll.
1—7 roll Norwood 52" face: 3 paper and 4 iron rolls. 1 new spare paper roll.
1—9 roll Norwood 83" face. Bottom roll 24" diameter. Top roll 20" diameter.

TRIMMER
1—63" Seybold.

TURBINES
2—General Electric Turbine Paper Machine Drive 250 h.p.—350 r.p.m. 125 lb. steam pressure. 30 lb back pressure.

UNWINDERS
1—42" John Waldron Unwinder. Used 1 year.

VACUUM PUMPS
3—14" x 20" Connersville.

WASHERS (Beaters)
1—54" face—45" diam. with rigging. New.

WET MACHINES
1—76" Pusey & Jones Cylinder Mould, 76" face —36" diameter with rubber couch, 10" dia.

YANKEE DRYERS
2—Beloit 8' dia. x 175" face—75# working pressure.
1—Beloit 5' dia. x 194" face—75# working pressure.

THE ABOVE IS A PARTIAL LIST OF EQUIPMENT OFFERED FOR SALE.

AMERICA'S LARGEST BUYERS OF PAPER MAKING MACHINERY

We buy single items to complete Pulp and Paper Mills.

SITUATIONS WANTED

CHEMIST, EXPERIENCED, QUALITY AND TECHNICAL CONTROL, New England or Eastern New York preferred. Address Box 46-460 care Paper Trade Journal. A-8

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AVAILABLE — Paper Converting Executive. Substantial recent experience laminated, coated and printed papers, films and converted specialties. Purchasing-sales contacts. Address Box 46-516 care Paper Trade Journal. A-1

FOR SALE

FOR SALE

New brass covered felt or wire rolls 6⅝" dia., 84 to 120" face. These are made from government surplus and are new in all respects.

Osborne Paper Mill Equipment Co.
Fulton, N. Y. TF

FOR SALE

8—New Shartle iron tub beaters with rolls 80" dia., 55" face, anti-friction bearings, stainless steel hoods, ideal for broke beaters, batch breakers or washers, capacity about 4000#.

Osborne Paper Mill Equipment Co.
Fulton, N. Y. TF

PAPER MILL EQUIPMENT
For Sale

110" Hamblet heavy duty mill type Sheeter.
80" Finley Sheeter.
36" Langston Slitter.
63" Oswego hand-clamp Power Cutter.
38" & 54" Automatic Power Cutters.
2—14 x 22 John Thomsons.
36" Waldron Reel.
American heavy duty Cross-Cut Saw.
NEW BALING PRESSES, hand & power.

THOMAS W. HALL COMPANY, Inc.
120 West 42nd St., New York 18

FOR SALE

ANILINE 3 Color Printing Press —absolutely NEW — 26½" wide Printing Rollers either for wrappers or Bag Machine. Box #46-507 c/o Paper Trade Journal. TF

FOR SALE—Moore & White Style K.T. Duplex Cutter with one Revolving Duplex Slitter having 94" length of knives and three each top and bottom Slitters on each of two slitter shafts and with a two reel unwinding backstand. Ready for immediate shipment. Theo. Adams, 111 West Washington St., Chicago, 2, Ill. A-29

FOR SALE

FRANK H. DAVIS CO.,
ESTABLISHED 1889
USED AND REBUILT PAPER MACHINERY.

FOR SALE

BARKERS
1—48" Waterville
BEATERS
1—Horne Patent, Roll 60x60, bronze bars
2—52x52 Downingtown iron tub
1—44x44 Horne iron tub
CUTTERS
1—110 Hamblet Duplex: 53" Hamblet—2 Whitin Foil Cutters
1—84" Clark with M. & W. Layboy 1—63 Beloit
1—Taylor style Rag Cutter
1—S & W 63" "Undercut" Ream Cutter
DECKERS
1—30"x95" B & C and 1—48"x100" Improved
DRYERS
1—6'x86", 1—6'x102", 106' and 106"
2—8'x175", 1—5'x194", new 1939
JORDANS
2—Union Standard for motor drive
1—N D W Pony Monarch: 1 Claflin #2
FANS
2—Buffalo double Turbo 6½ Conoidol forced draft fans
FOURDRINIER PARTS
22000 C F M 6" state pressure
1—R B O F wire 100x31 rebuilt
1—P & J wire 133x61"2" now running at 500 F P M
LOCOMOTIVE
1—Alliance also 7000 feet of 60 lb. track with connections
MIXER AND COOKER
1—25 gallon cooker #75
PULPERS
2—Jones with Talk Reducers and motors 440 volts, 3 phase 60 cycle
1—Lannoye #2
SCREENS
2—Moore & White #2: 1 Liethwalk
2—6 plate—5—12 plate and 6 new 14 plate, flat
SHREDDERS
2—Mitts Merrill #15 C.F. direct cont. to 125 H.P. 440 v. Motor
1—Waterville: 1—Carthage: 1—Ryther & Pringle: Mitts Merrill type 14A P E S #C 19026—12—44 never used.
SLITTERS
1—26" Kidder 2 drum
1—114 N. & W. 4 drum winds 60" roll
WASHERS
2—2000 lb. Union Mach. Steel tubs
Cal. 1—52" Textile Super Cal.
WINDER
1—50" Cannard
PUMP
1—10x10 Beloit Triplex stuff.

Builders of
ASPHALT COATING, COMBINING MACHINE, GUMMING AND CREPING MACHINE, ROLL GRINDER

FRANK H. DAVIS COMPANY
175 Richdale Ave., Cambridge, Mass. A-8

FOR SALE
BREAKER BEATER

1—Dilts Bandless Roll 62" diameter x 54" face—70 tons daily capacity.
Equipped with Shartle Bros. Ragger.
1—Appleton Breaker Beater—New Perforated Back Fall — Beater roll 48" face x 54" diameter. (Newly Filled)—No tub. New Fillings.

J. J. ROSS COMPANY
250 Frelinghuysen Ave., Newark 5, N. J.
Tel. Bigelow 3-3720 A-1

FOR SALE—80" Shartle and Bevis Superior Waxing Machine complete with drive (except motor) unwind roll stand, shafts, chucks and rewind shaft. Complete and in good condition. Shipping weight 20,000 pounds. Address Box 46-498 care Paper Trade Jounnal. A-8

FOR SALE—68" Rice, Barton & Fales Slitter-Rewinder to go on dry end of paper making machine. Thomas W. Hall Company, Stamford, Conn. A-8

FOR SALE

REVAMPING AND REBUILDING MILL AND CAN OFFER FOR SALE

1—Noble & Wood Mammoth Jr. Jordan ¼" Filling. Now operating.
1—Brass covered finishing press roll—17¾" diameter x 89½" face.
1—4000# Capacity motor driven freight elevator with automatic shop control—can be inspected in operation at our plant.
1—6" Lawrence Centrifugal Water pump.
2—8" Barnes Centrifugal Sewage Pumps.
8—100" Screen plates for No. 2-A Bird Screen. Slots. .022—never used after being recut once.
1—Rubber covered press roll 12" diameter by 68" face—Journals 5" diameter by 7¼" long.
1—Rubber covered press roll 12" diameter by 84¼" face—Journals 5" diameter by 7¼" long.
1—20" face cast iron tapered pulley—2 15/16" Bore, Taper 31"-29½".
2—20" face cast iron tapered pulley—3 7/16" Bore, Taper 31"-30".
1—24" face cast iron tapered pulley—3 7/16" Bore, Tapered 31⅝"-29⅝".
2—Steel split pulleys 60" diameter by 31" face —5 15/16" bore.
1—Cast iron split pulley—60" diameter by 21" face by 3½" bore.
1—Cast iron split pulley—40½" diameter by 21" face by 3½" bore.
1—Cast iron split pulley—84" diameter by 36" face by 5 15/16" bore.
1—Cast iron split pulley—72" diameter by 16" face by 16" face by 8⅝" bore.
2 —Steel split pulleys—60" diameter by 41" face by 5 15/16" bore.
1—Paper pulley—24" diameter by 21" face by 4½" bore.
1—Tapered cast iron split pulley. Taper 30" to 28½" by 20" face by 3 15/16" bore.
1—30" x 90" Cylinder mould—7" diameter shaft inside cylinder.
1 9½" diameter x 85" Face Rubber-covered squeeze or wringer roll-Journals 1 15/16" diameter.
1—9" diameter x 88" Face Calender roll—5" diameter journals.
12—6½" dia. x 92" face steel drier felt rolls with 1 7/16" x 6½" Journals.
2—4" Gould centrifugal stock pumps with 2 vane open impeller. Capacity 600 G.P.M. at 40' head—1175 R.P.M. with 10 H.P. Operated less than two years.
2 —Pair Noble & Wood lighter stands complete with lighter beams and bearings for 8" diameter journal beater roll.

A visit to the mill would prove profitable as we have many items for sale too numerous to mention. See our superintendent, Mr. O. P. Fussell at our plant in Walloomsac, N. Y.

WALLOOMSAC PAPER MILLS, INC.
Mills: Walloomsac, New York
Main Office: 25 Vanderbilt Avenue
New York 17, N. Y. TF

1—36" Robinson Card Cutter, with 11 sets of Knives and ½ h.p. A.C. Motor Equipment.
1—64" Creping Machine. Creping roll 12" in diameter with doctor blade. Two dryers 36"x64" and rewind.
1—Noble & Wood Pony Jordan with extra plug, ⅛" steel fillings.
6—Potdevin Bag Machines, making flat and square bags from ¼ to 25 lbs.
1—110" Double-drum Waldron late type shear cut Hydraulic Slitter and Rewinder.
1—44" wide 7 roll stack of Holyoke Super calenders, 4 chilled iron and 3 cotton rolls, offered rebuilt and guaranteed.
1—Noble & Wood 100 lb. Experimental Beater.
4—Complete spiral tube winders with automatic cut-offs, also recutter. 2 Langston and 2 Knowlton manufacture.
1—48" Waldron Cellophane Slitter and Rewinder.
1—High Speed, 3000 per hour production, garment bag making machine with 2 color printing attachment and AC motor equipment. Range smallest bag 17¾" wide x 30" long; largest bag 23½" x 65" long.

GIBBS-BROWER COMPANY, INC.
21 East 40th St., New York 16, N. Y.
TF

PAPER COATING MACHINERY — Waxing, Oiling, Gumming, Gluing, Carbon, Laboratory Coating and Treating Machines. High speed. New improvement. MAYER MACHINE COMPANY, Inc., 1155 Scottsville Road, Rochester, 11, N. Y. TF

FOR SALE | FOR SALE | FOR SALE

TARENTUM PRODUCTS CORP.

TARENTUM, PENNSYLVANIA

1—Majestic Jordan #A-235, complete with new filling, 3/16" tackle, No. 6 Fast Jordan Coupling, and following drive:
1 Westinghouse Induction Motor type CS 375 HP, 2300 V, 3 ph, 60 cy, 67 amp., 380 RPM, Ser. #1463196, complete with one control panel, including one Westinghouse 300 amp. Oil Circuit Panel.
1 set Disconnect Switches.

1—Westinghouse DC Motor, 75 HP, 230 V, 265 Amp, 575 RPM, Frame 183, Serial #4778560. Complete with starting control, circuit breaker and meter.

1—Ellicott Water Pump, capacity 500 gallons per minute. Serial #37075. Direct connected to one G.E. Motor, 25 HP, DC, Type CD 85-230, 91.3 amp, 1750 RPM, Ser. #1530365. Complete with one starting control and switch.

1—Westinghouse Generator, 70 KW, 250 V, DC, 280 amp., 375 RPM, Ser. #345451, with one Field Rheostat, one two-pole circuit breaker, 600 amp., one Westinghouse 500 amp. ammeter and shunt. This Generator driven by Buckeye Steam Engine, 100 lbs. steam pressure engine #5156.

1—2000 KW A.C. Turbine Generator complete with all accessories.

1—Allis-Chalmers Induction Motor, 250 HP, 870 RPM, 220 V, 3 ph 60 cy, 59 amp, Serial #2K13566.1.

1—G.E. Induction Motor, type KT 326-6-25-1200, Form B, 3 ph 60 cy 220 V, 25 HP, 61 amp., 1200 RPM, Ser. #1053934 complete with one G.E. Oil Switch, Type F, Form K20, 80 amp, 600 V, Ser. #368400.

1—G.E. Starting Compensator CR 1034, 220 V, 3 ph 60 cy, Type NR 1622.

1—G.E. Induction Motor (slipring), Frame 15A, 150 HP, Form M, 720 RPM, 2200 V, 3 ph 60 cy, 36 amp. Ser. #1180132.

1—G.E. Induction Motor (slipring), Frame 15A, 150 HP, Form M, 720 RPM, 2200 V, 3 ph 60 cy, 36 amp.

1—Westinghouse 30 HP D.C. Motor, 220 V, 117 amp. 975 RPM, Ser. #233501.

1—G.E. Motor, DC, Type MP, Form H, 20 HP, 1025 RPM, 220 V, 70 amp. Ser. #19880, complete with manual starting equipment.

1—104" Sheet Cutter complete with stands for 10 rolls and layboy.

1—G.E. Motor, DC, Type RC30, Form A, 15 HP, 850 RPM, 230 V, 53.5 amp. Ser. #957750, complete with variable speed control for armature and field.

1—G.E. Motor, DC, 7.5 HP, 230 V, 30.2 amp, 850 RPM, Type RC-29A, Form A29, Ser. #1145541.

1—G.E. Motor, DC, 10 HP, 230 V, 375.1 amp, 850 RPM, Type RC 29, Form A29, Ser. #1140650.

1—Westinghouse DC Motor, type S, 5 HP, 220 V, 21 amp, 1300 RPM, Ser. #112,692.

1—G.E. Motor, DC, 35 HP, 129 amp, 230 V, 700 RPM, DLC 202, Form A, Compound Ser. #434542, complete with starting control.

1—G.E. Induction Motor (slipring) Type IE 13AA-4-150-1800, Form M, 3 ph 60 cy, 2200 V, 150 HP, 34.5 amp, 1745 RPM, Ser. #3884576, complete with panel. One G.E. Switch Panel Type AT1 59008, one Drum Controller and Resistance, variable speed.

1—Allis-Chalmers DC Motor, 10 HP, 220 V, 500 RPM, #38637.

1—Commercial DC Motor, 10 HP, 230 V, 40 amp, 730 RPM, Ser. #3609, complete with variable control.

1—Master Electric Worthington Pump and Motor. Pump is good for 100 gal. per minute, 5 HP motor, 230 V, DC, 3425 RPM, Ser. #CC-3495.

1—Robbins & Myers Hoist, ½ HP, 230 V, DC, 400 RPM, Ser. M71309KH.

1—Master Electric Gear Head Motor, 1 HP, 230 V, DC, 1725 RPM, Ser. CE963.

1—Shepard Liftabout Electric Hoist 2,000 lb. capacity, 230 V, DC, Ser. #11339.

1—Wright Electric Hoist, 1,000 lb. capacity, 230 V, DC, 1200 RPM, Ser. #27668.

3—ILG Ventilating Fans, ¼ HP, 230 V, DC, 855 RPM.

2—G.E. CP 27 Compressor Head Air Pumps, 230 V, DC, Complete with pressure line switches.

1—Allis-Chalmers DC Motor, 5 HP, 220 V, 1050 RPM, Ser. 44037.

1—Westinghouse DC Motor, 10 HP, 40 amp, 230 V, 1725 RPM, Frame 60L, Ser. 143833.

1—Cameron #10A Rewinder #36836, trim 44".

1—Daniels Rag Cutter #2.

1—Horizontal Rotary Digester 7' dia., 22' long, with gearing reduction.

1—Horizontal Rotary Digester 8' dia., 20' long, with gearing reduction.

1—Bucket type conveyor elevator. Buckets size 5" x 17", approximately 48' long, lifts one incline approx. 15'. All steel construction with Rex Chain Drive, complete with one Foote Bros. gear reducer type 25W, 43 to 1, Ser. 188052, driven by one G.E. DC Motor, type RC27A, Form A-38, 5 HP, 19.1 amp., 230 V, 1150 RPM.

1—R40 Reducer, 12 to 1 ratio.

1—Slat Conveyor steel construction 4' wide, 3' high, 42" long, driven by one Jones Spur Gear Reducer, ratio 27 to 1, ser. #10135. Driven by one Sprag electric DC Motor, type LC, 10 HP, 37.2 amps, 230 V, 100 RPM, Ser. #DL 2005213, complete with sheaves and V-Belt drive, one Westinghouse Automatic Starter.

1—John Waldron Embosser.

1—Thorpe Hydraulic Press complete with 4 steam platen plates 40" x 40", and one Equalizer Pump.

1—Four cylinder Holyoke Duster.

1—Two-color rotary printing press, with various plates and printing rolls. Will handle 36" wide rolls of paper.

1 Bag Factory Complete, for manufacturing single and multi-wall Bags (up to and including 4-wall), as follows:

1—Heavy Duty Smith & Winchester Tuber #3369, with tuber attachments No. 4052 and No. 4053.
1—Frank A. Jones Tuber No. 1809.
1—Smith & Winchester Bottomer No. 1810, size 1/16 bbl.
1—Smith & Winchester Bottomer No. 3525, size ⅛ bbl.
1—Smith & Winchester Bottomer No. 4018, size ½ bbl.
1—Smith & Winchester Valver No. 2245, size ¼ bbl.
1—Printing Press, Cottrell Flat Bed No. 9645, one color.
1—Printing Press, Cottrell Flat Bed No. 9649, one color.
1—Printing Press, Cottrell Rotary, two color.
1—Campbell flat bed printing press, suitable for large size bags.

A-22

FOR SALE

Barrett - Craven and Lewis - Shephard Lift Trucks, in excellent condition, 3,500# and 5,000# capacities, 7" high in lowered position, 3" and 4" lifts.

EMPIRE BOX CORPORATION
Garfield, New Jersey

TF

FOR SALE

1—108" Warren Improved 2 drum winder 6 top and bottom slitters.
1—Ryther & Pringle paper duster for book and and magazine stock 8' diameter large end 6' small end 16½' long (inclined)
1—Low head circulating pump 12" inlet 8" outlet
2—Calendar rolls 12" dia. 88" face 90" between shoulders 6" journals
1—Rubber covered press roll 16" diameter 80½" face 84" between shoulders. Journals 7" diameter.
1—Rubber covered press roll 18" diameter 80½" face 84" between shoulders. Journals 7" diameter.
1—Rubber covered press roll 18" diameter 82½" face 84" between shoulders. Journal 7" diameter.
1—Brass press roll 18" diameter 83" face 84" between shoulders. Journals 7" diameter
1—Granite press roll 18" diameter 80½" face 84" between shoulders. Journal 7" diameter
6—Moore & White collapsible winder shafts
2—46" 2—31" 2—19"
1—Split pulley 72" diameter 20" face, bore 5"
1—Split pulley 60" diameter 19" face, bore 6"
1—#4 Shartle refiner with couplings. (No motor)
4—10 plate flat screens
2—12 plate flat screens
1—1A Bird screen
2—2A Bird screens
2—#2 Bird screens
2—75 H.P. G.E. Motors 600 rpm with grids and starters

FRANK P. LYDEN, FOR EDWARD, N. Y.
A-8

FOR SALE

4—2A Bird screens.
2—12 plate flat screens.
4—10 plate flat screens.
1—#4 Shartle refiner.

FRANK P. LYDEN—FORT EDWARD, N. Y.
A-15

FOR SALE

1—100 H.P. Synchronous Motor, 8 P. F. 2450 Volts, 2 Phase, 60 Cycle, Complete with Oil Circuit Breaker, Exciter, and Control. Address Box 46-512 care Paper Trade Journal. A-1

FOR SALE—1 Hamilton-Corliss Variable Speed Twin Engine, size of cylinders 12" x 24". Also Triple-Deck Frames for ninety 36" dryers, any width. The Chesapeake Paperboard Co., Baltimore 30, Md. TF

FOR SALE—50" Seybold Automatic Clamp Cutter thoroughly rebuilt and fully guaranteed. Address Box 46-518 care Paper Trade Journal. A-1

FOR SALE—Norwood Super Calender 56" width Nine rolls steel and cotton. This calender has new bearings and bearing oiling system and is equipped with Foxboro pneumatic loading. Condition excellent. Address Box 46-480 care Paper Trade Journal. A-1

FOR SALE—Paper Tube Machinery—four semi-automatic convolute paper tube winding machines equipped with motors and mandrels. Two 48" Paper Sheet pasting machines with motors. Write American Paper Products Co., 2113-37 East Rush Street, Philadelphia 34, Pa. A-1

The right man may be seeking a job in an advertisement in this section.

The machine or the material you urgently need may be advertised right here in these columns.

Read Them, Use Them—If you need something, advertise for it — If you have something to sell tell the industry about it—Everybody reads the Clearing House.

FOR SALE

28—Dryers 48″ dia., 138″ face.

24—Dryers 48″ dia., 154″ face.

5—New Shartle iron tub Beaters with rolls 80″ dia., 55″ face, anti-friction bearings, stainless steel hoods, ideal for broke beaters, batch breakers or washers, capacity about 4000#.

1—74″ Seybold Ream Cutter with overhead tape and complete with motor.

3—Calender Stacks 88″ face, 7 rolls each, complete with doctors and angle drives.

2—Cylinder Moulds 36″ dia., 90″ face complete with anti-friction bearings.

2—Rubber covered Couch Rolls, 18″ dia., 90″ face.

2—Rubber covered Couch Rolls, 16″ dia., 90″ face.

2—Shartle 8 x 18″ Triplex Plunger Stock Pumps.

1—Downingtown 8 x 18″ Triplex Stock Pump.

2—Beloit 8 x 18″ Duplex Stock Pumps.

1—Dilts Cowles Classifiner with pump and motor.

1—Dilts Hydrafiner with 1800 RPM Motor.

5—Six Plate Sandy Hill Flat Screens complete with plates.

2—Eight Plate Sandy Hill Flat Screens with plates.

1—Twelve Plate Sandy Hill Flat Screen with plates.

2—Complete Presses with frames, 68″ face press rolls, 16″ diameter.

6—Pair Shartle Press Roll Housings with ratchet lift complete with bearings.

1—50 H.P. General Electric Single Stage Steam Turbine Direct connected to Falk 40 H.P. Speed Reducer, ratio 6.14 to 1.

1—60 Ton Continuous Breaker Beater with Shartle backfall bandless roll used about two years.

70—Flybars patented staggered type, 60″ long, 6″ wide.

New Brass covered felt rolls, 6⅝″ dia., 84 to 120″ face. These are made from government surplus and are new in all respects.

4—2A Bird Screens with copper vats.

1—164″ Dillon Duplex Sheet Cutter.

OSBORNE PAPER MILL EQUIPMENT CO.
Fulton, N. Y.
A-1

WANTED

WANTED BOARD MACHINES

From 60 to 80″ wide to produce paper boards, such as Chip, News, Kraft, etc. from paper waste or pulp in .016 caliper and up. Will consider moving plant or operating where ours is. Will buy outright or trade with our paper box machinery for corrugated, solid fibre, setup and folding boxes. Address Box 46-497, c/o Paper Trade Journal. A-29

WANTED TO BUY—Two 66″ or 72″ toilet roll winding machines. Drum and head suitable for perforating 5″ long sheets. Address Box 46-471 care Paper Trade Journal. A-1

WANTED—Old Evaporator Tubes 1″, 1¼″ and 2″ O. D. Why sell them for junk? Write us if you have any. Also when you get ready to change over. S. Bender, P. O. Box 271, Shreveport, La. A-8

WANTED—W & P Shredders, Evaporators, Generators and Boilers, Slitters, Cutters, Hydraulic Presses, Sheridan Presses, Dryers. Address Box 46-32 care Paper Trade Journal. TF

WANTED—Brightwood Box Machine. Address Box 46-33 care Paper Trade Journal. TF

WANTED—5—42″ diameter x 86″ face C. I. Dryers. Address Box 46-491 care Paper Trade Journal. A-15

WANTED—Straight pass enclosed drier to handle paper coating process. Also paper coating equipment. The Process Manufacturing Company. 1313 West Randolph Street, Chicago, 7, Illinois. TF

WANTED — DISCARDED PAPER MILL FELTS. HIGHEST PRICES paid for all kinds of discarded paper mill felts. LARGE or SMALL QUANTITIES accepted. Prices quoted immediately on receipt of samples. ADDRESS GLASER AND YOFFE, INC., 80 NORTH MAIN ST., NATICK, MASS. TF

WANTED—Four room apartment—Cleveland or vicinity. Address Box 46-298 care Paper Trade Journal. TF

WANTED—Paper Saturator (water solution) 45″ or less; also slitter and rewinder, same size. Will consider narrower equipment, also separate winder. Do not need drying equipment. Address Box 46-506 care Paper Trade Juornal. A-1

WANTED—One Paper Machine complete, including stock preparation equipment, approximately 60 to 80 tons in 24 hours, trimming 84″ to 114″, cylinder machine preferred. Advise anything you have to offer. Address Box 45-503 care Paper Trade Journal. A-1

SALES AGENCY

Paper Manufacturers Agents, covering all of Egypt, with an experience of 20 years in the paper trade, desire to contact American manufacturers of papers and boards, interested to appoint agents in Egypt. Write: Paper Agents, P. O. B. 1297 Cairo (Egypt). A-1

WANTED

WANTED—42″ or 52″ sheeters, any make, in good condition. Address Box 46-510 care Paper Trade Journal. A-8

WANTED—36″ to 45″ Cameron Slitter—any condition—for experimental purposes. Address Box 46-519 care Paper Trade Journal. A-8

WANTED—42″ to 50″ Beck Sheeter. For conversion for laboratory work. Address Box 46-520 care Paper Trade Journal. A-8

SALES REPRESENTATIVE

WANTED TO REPRESENT one or more paper mills or paper products manufacturers, St. Louis and surrounding territory, by experienced, established salesman. Broad acquaintance. Good background and references. Address Box 46-515 care Paper Trade Journal. A-1

TAPPI NUMBER

of

PAPER TRADE JOURNAL

will be

OCTOBER 10, 1946

MILL & MILL EQUIPMENT NUMBER

will be

DECEMBER 5, 1946

BUSINESS OPPORTUNITY

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ADDRESS BOX 46-501 care of Paper Trade Journal. A-1

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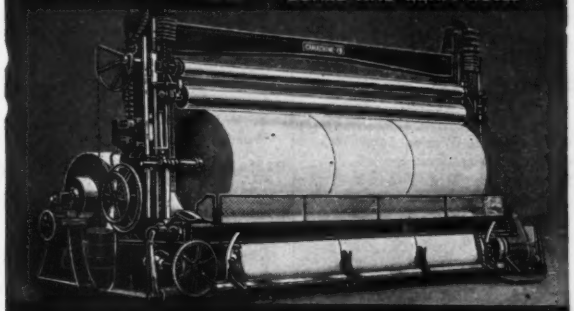

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Weber, Herman G.

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Smith & Winchester Mfg. Co.
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Lobdell Car Wheel Co.
Magnus Metal Corp.
Montague Machine Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
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Union Screen Plate Co.
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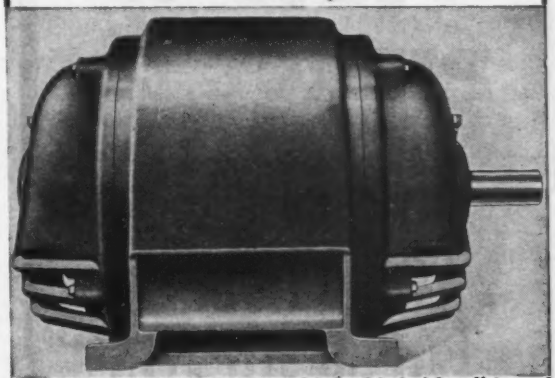

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Shartle Brothers
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Shuler & Benninghofen
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FELT CONDITIONERS

Steamaire Company

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Waldron Corp., John

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Moore & White Co.
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Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John

GRINDERS

Carthage Machine Co.
Farrel-Birmingham Co.
Lobdell Car Wheel Co.
Montague Machine Co.
Norton Company
Samuel C. Rogers and Company
The Sandy Hill Iron & Brass Wks.

GRINDING WHEELS

The Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc.
Norton Company
United States Rubber Co.

HEATING, VENTILATING AND AIR CONDITIONING

The Appleton Machine Co.
Armstrong Machine Works
Cochrane Corp.
E. D. Jones & Sons Co.
General Electric Co.
Grinnell Company
Leeds & Northrup
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
Ross Engineering Corp., J. O.
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Valley Iron Works Co.
Worthington Pump & Machy. Corp.

HOISTS

Appleton Machine Co.
Dilts Machine Works
Rodney Hunt Machine Co.
Ingersoll-Rand Co.
E. D. Jones & Sons Co.
Reading Chain & Block Corp.

HOSE (Air, Water, Suction, etc.)

The Cincinnati Rubber Mfg. Co.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
United States Rubber Co.

WHERE TO BUY

HUMIDITY CONTROL
Steamaire Company

INSTRUMENTS, TESTING AND MEASURING
Bauer Brothers Co.
N. P. Bowsher
The Bristol Company
Cochrane Corp.
The Foxboro Company
General Electric Company
W. & L. B. Gurley
Leeds & Northrup Company
National Technical Laboratories
B. F. Perkins & Son
Taber Instrument Corp.
Taylor Instrument Cos.
Testing Machines, Inc.
Wallace & Tiernan Instrument Co.

INSULATION
Johns-Manville Sales Corp.

JOINTS
Perfecting Service Company

JORDAN FILLINGS
Appleton Machine Co.
Bahr Brothers Mfg. Co.
E. D. Jones & Sons Co.
Noble & Wood Machine Co.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

KNIVES
Black-Clawson Company
Dilts Machine Works, Inc.
Hamblet Machine Co.
E. D. Jones & Sons Co.
Valley Iron Works Co.

KNOTTERS
Fibre Making Processes, Inc.

LABORATORY EQUIPMENT
Appleton Machine Co.
Bauer Brothers Co.
The Biggs Boiler Works Co.
W. H. & L. D. Betz
Dilts Machine Works
E. D. Jones & Sons Co.
Leeds & Northrup Company
National Technical Laboratories
Noble & Wood Machine Co.
Taber Instrument Co.
Taylor Instrument Companies
Testing Machines, Inc.
Valley Iron Works

LAY BOYS
Hamblet Machine Co.
Moore & White Co.
Shartle Brothers

LINTER COTTON
The Railway Supply & Mfg. Co.

LUBRICANTS
Gulf Oil Corporation
Gulf Refining Co.
Sinclair Refining Co.
Socony-Vacuum Oil Co., Inc.
Sun Oil Company
The Texas Company
Tide Water Associated Oil Co.

LUBRICATORS
Hills-McCanna Co.

MATERIAL HANDLING
Northwest Engrg. Co.
Reading Chain & Block Company

MICROMETERS & CALIPERS
Farrel-Birmingham Co.
Montague Machine Co.
Lobdell Car Wheel Co.
Testing Machines, Inc.
Walker-Goulard-Plehn Co.

MOISTENING EQUIPMENT
The Spray Engineering Co.
Steamaire Company

MOISTURE CONTENT CONTROL
Steamaire Company

MOTORS AND GENERATORS
Allis-Chalmers Mfg. Co.
Continental Electric Co.
De Laval Steam Turbine Co.
General Electric Co.
Ingersoll-Rand Co.
Reliance Electric & Engrg. Co.
Westinghouse Electric Corporation

NOZZLES
Steamaire Company

PACKING BOXES
Johnson Corporation
Shartle Brothers Machine Co.

PACKING
Johns-Manville Sales Corp.
The Manhattan Rubber Mfg. Div. of Raybestos-Manhattan, Inc.
United States Rubber Co.

PAPER MACHINES
Bagley & Sewall Co.
Black-Clawson Company
Downingtown Mfg. Co.
Thomas W. Hall Co.
Moore & White Co.
Pusey & Jones
J. J. Ross Company
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.

PAPER MACHINE SLICES
Black-Clawson Company
E. D. Jones & Sons Co.
Montague Machine Co.
The Sandy Hill Iron & Brass Wks
Valley Iron Works Co.

PAPER MILL BUILDERS
Merritt-Chapman & Scott Corp.
The Rust Engrg. Co.

PAPER TUBE MACHINERY
Theo. Adams
Dietz Machine Works
Thomas W. Hall Co.
Hudson Sharp Machine Company
Langston Co., Samuel M.
South Wabash Engrg. Co.

PASTING MACHINES
Black-Clawson Company
Davis, Frank H., Co.
Murray, D. J., Mfg. Co.
Moore & White Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
South Wabash Engrg. Co.
Waldron Corp., John

PENSTOCKS, WELDED STEEL
The Biggs Boiler Works Co.

PERFORATED METAL
Allis-Chalmers Mfg. Co.
Harrington & King Perforating Co.
Hendrick Mfg. Co.

PIPE
Black-Clawson Company
Crane Company
Deublin Company
Grinnell Company
Johns-Manville Sales Corp.
Shartle Brothers Machine Co.
Stowe-Woodward, Inc.
Taylor Forge & Pipe Works
Walworth Company

PLATERS
Perkins & Son, Inc., B. F.

PLATES
Black-Clawson Company
Hendrick Mfg. Co.
J. O. Ross Engrg. Corp.
Shartle Brothers Machine Co.
Timken Roller Bearing Co.

PLATE WORK (Steel & Alloy)
The Biggs Boiler Works Co.

PLUGS
Black-Clawson Company
E. D. Jones & Sons Co.
The Noble & Wood Machine Co.
Shartle Brothers Machine Co.

PRESSURE VESSELS, STEEL AND ALLOY
The Biggs Boiler Works Co.

PRESSES
Black-Clawson Company
Dietz Machine Works
Farrel-Birmingham Co.
Fibre Making Processes, Inc.
Thomas W. Hall Co.
Hudson-Sharp Machine Co.
Paper Converting Machine Co., Inc.
Potdevin Machine Co.
Rotogravure Engineering Co.
Shartle Brothers
South Wabash Engrg. Co.
Valley Iron Works Co.
Waldron Corp., John
Weber, Herman G.

PULPERS
Bauer Brothers Co.

PULPS
Andersen Co., J.
Bulkley, Dunton Pulp Co., Inc.
Gottesman & Co., Inc.
Elof Hansson, Inc.
Lyddon & Co. (America) Inc.
Parsons & Whittemore, Inc.
Perkins-Goodwin Co.
Price & Pierce, Ltd.
Pulp and Paper Trading Co.

PULPSTONES
Norton Company

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Allis-Chalmers Mfg. Co.
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BED PLATES
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Dorr Company
Downingtown Mfg. Co.
De Laval Steam Turbine Co.
Hardinge Co., Inc.
Hills-McCanna Co.
Ingersoll-Rand Co.
Johnson Corp.
Moore & White Co.
Morris Machine Works
Nash Engineering Co.
Noble & Wood Machine Co.
Paper Converting Mch. Co.
J. J. Ross Company
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Steamaire Company
Warren Steam Pump Company
Worthington Pump & Mchy. Corp.

RAG CUTTERS
B. F. Perkins & Son, Inc.
Taylor-Stiles & Co.

RECOVERY SYSTEMS
Bulkley, Dunton Pulp Co., Inc.
Rodney Hunt Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
Pusey & Jones
Ross Engineering Corp., J. O.
Valley Iron Works Co.

REELS
Black-Clawson Company
Downingtown Mfg. Co.
De Laval Steam Turbine Co.
Hudson Sharp Machine Company
The Kohler System Company
Montague Machine Co.
Moore & White Co.
Paper Converting Mch. Co.
Rodney Hunt Machine Co.
Rotogravure Engrg. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
The Smith & Winchester Mfg. Co.

REFINERS
Appleton Machine Co.
Bahr Brothers Mfg. Co.
Bauer Brothers Co.
Dilts Machine Works
The Hermann Manufacturing Co.
E. D. Jones & Sons Co.
Murray, D. J., Mfg. Co.
Noble & Wood Machine Co.
Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Sprout, Waldron & Co.
Sutherland Refiner Corp.
Valley Iron Works

REGULATORS
Allis-Chalmers Mfg. Co.
Armstrong Machine Works
Bird Machine Company
The Bristol Company
The Brown Instrument Co.
Cochrane Corp.
The Foxboro Company
Jones, E. D., & Sons Co.
General Electric Co.
Johnson Corp.
Leeds & Northrup Company
National Technical Laboratories
Noble & Wood Machine Co.
Shartle Brothers
Stickle Steam Specialties Co.
Taylor Instrument Companies
Wallace & Tiernan
Westinghouse Electric Corporation

RESINS
Amer. Cyanamid & Chemical Corp.
Amer. Resinous Chemicals Corp.
Monsanto Chemical Co.
The Resinous Prod. & Chem. Co.

ROLLS
Appleton Machine Co.
Black-Clawson Company
Downingtown Mfg. Co.
Farrel-Birmingham Co.
Improved Paper Machy. Corp.
Lobdell Co.
Montague Machine Co.
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
Perkins, B. F., & Sons Co.
Philbrick Engrg. & Machine Co.
Pusey & Jones Corp.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
Roehlen Engraving Co.
J. J. Ross Company
Rodney Hunt Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Sinclair Co.
Smith & Winchester Mfg. Co.
Stearns Magnetic Mfg. Co.
Stowe-Woodward, Inc.
United States Rubber Co.
Valley Iron Works Co.
Waldron Corp., John

ROLL COVERS
The Cincinnati Rubber Mfg. Co.
Stowe-Woodward, Inc.

ROLL STANDS
Cameron Machine Co.
The Kohler System Company
Moore & White Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
South Wabash Engrg. Co.

ROOFING MATERIALS
Johns-Manville Sales Corp.

ROTARY BOILERS
Biggs Boiler Works

SATURATING MACHINES
Black-Clawson Company
Moore & White Co.
Noble & Wood Machine Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.

SAVEALLS
Bulkley, Dunton Pulp Co., Inc.

SCALES
Merrick Scale Mfg. Co.

SCREEN PLATES
Fitchburg Screen Plate Co.
Magnus Metal Corp.
Morey Paper Mill Supply Co.
Testing Machines, Inc.
Union Machine Co.
Union Screen Plate Co.

SCREENS
Allis-Chalmers Mfg. Co.
Appleton Wire Works
Appleton Machine Company
Bird Machine Company
Carthage Machine Co.
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Harrington & King Perforating Co.
Hendrick Manufacturing Co.
E. D. Jones & Sons Co.
Montague Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
J. J. Ross Company
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.

SHEET MACHINES
Thomas W. Hall Co.
The Hermann Manufacturing Co.
Noble & Wood Machine Co.
Rotogravure Engrg. Co.
Valley Iron Works Co.

SHOWER PIPES
Bird Machine Company
A. E. Broughton & Co.
Downingtown Mfg. Co.
Improved Paper Machy. Corp.
Moore & White Co.
Shartle Bros. Mach. Co.
Smith & Winchester Mfg. Co.

SHREDDERS
Bauer Brothers Co.
Carthage Machine Co.

SIZING
Amer. Cyanamid & Chemical Co.
Amer. Resinous Chemicals Corp.
Black-Clawson Company
The Dow Chemical Company
du Pont, E. I., de Nemours & Co.
Flintkote Company
Monsanto Chemical Co.
National Oil Products Co.
Paper Makers Chemical Department, Hercules Powder Co.
Philadelphia Quartz Co.
Pioneer Salt Company
Socony-Vacuum Co.
Stein, Hall & Co., Inc.

SLIME CONTROL
Falls Chemical Products Co.
Magnus Chemical Co.
Mallinckrodt Chemical Wks.

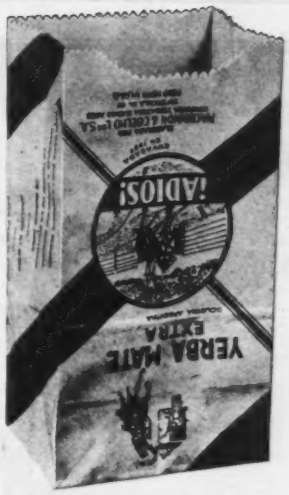
SLITTERS
Theo. Adams
Black-Clawson Company
Cameron Machine Co.
Carthage Machine Co.
Dietz Machine Works
Downingtown Mfg. Co.
Thomas W. Hall Co., Inc.
Hamblet Machine Co.
Hudson Sharp Machine Company
Langston Co., Samuel M.
Moore & White Co.
D. J. Murray Mfg. Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
J. J. Ross Company
The Sandy Hill Iron & Brass Wks.
Smith & Winchester Mfg. Co.
South Wabash Engrg. Co.
Valley Iron Works Co.
Waldron Corp., John

SMOKE STACKS
The Biggs Boiler Works Co.

SOLENOID VALVES
Steamaire Company

WHERE TO BUY

SPRAYING EQUIPMENT
The Spray Engineering Co.
Steamaire Company
STAINLESS STEEL
Anti-Corrosive Metal Products Co., Inc.
STARCH
Amer. Cyanamid & Chemical Corp.
Clinton Industries, Inc.
National Starch Products, Inc.
Stein, Hall & Co., Inc.
STATIC ELIMINATORS
Steamaire Company
STEAM SPECIALTIES
Babcock & Wilcox Co.
Cochrane Corp.
Johnson Corp.
Perfecting Service Company
Shartle Bros. Mch. Co.
Stickle Steam Specialties Co.
STEEL TANKS
The Biggs Boiler Wks. Co.
STRAPPING & STRAPPING MACHINES
Acme Steel Company
The Stanley Works
STUFF CHESTS
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.
SUCTION BOXES
Black-Clawson Company
A. E. Broughton & Co.
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Westinghouse Electric Corp.
SULPHUR
Amer. Cyanamid & Chemical Corp.
Stauffer Chemical Company
Texas Gulf Sulphur Co.
Witco Chemical Company
SULPHUR BURNERS
Valley Iron Works Co.
SULPHUR DIOXIDE
Ansul Chemical Company
SUPERCALENDERS
B. F. Perkins & Son, Inc.
TALC
Amer. Cyanamid & Chemical Corp.
W. H. Loomis Talc Corp.
TANKS
Cochrane Corp.
E. D. Jones & Sons Co.
Kalamazoo Tank & Silo Co.
The Noble & Wood Machine Co.
Raybestos-Manhattan Inc.
Manhattan Rubber Division
Rodney Hunt
J. O. Ross Engrg. Corp.
Shartle Brothers Machine Co.
Stowe-Woodward, Inc.
United States Rubber Co.
Waldron Corp., John
B. F. Perkins & Son, Inc.
Testing Machines, Inc.
THICKENERS, DECKERS AND SAVEALLS
Bird Machine Company
Bulkley, Dunton Pulp Co., Inc.
Carthage Machine Co.
Dilts Machine Works
Dorr Co.
Downingtown Mfg. Co.
Hardinge Co., Inc.
Montague Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
J. J. Ross Company
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.
TITANIUM
E. I. du Pont de Nemours & Co.
Titanium Pigment Co.
R. T. Vanderbilt Co.
Witco Chemical Company
TOOLS
Acme Steel Company
Ingersoll-Rand Co.
The Stanley Works
Walworth Company
TRUCKS
Automatic Transportation Co.
TRAPS
Armstrong Machine Works
Cochrane Corp.
Crane Co.
Grinnell Company.
Johnson Corporation
Shartle Bros. Mch. Co.
TUBS
Rodney Hunt Machine Co.
Noble & Wood Machine Co.
Shartle Brothers
Valley Iron Works Co.
TURBINES
Allis-Chalmers Mfg. Co.
De Laval Steam Turbine Co.
General Electric Company
Hunt, Rodney, Mach. Co.
Westinghouse Electric Corp.
Worthington Pump & Machy. Corp.
USED EQUIPMENT
Frank H. Davis Company
Gibbs-Brower Co.
Thomas W. Hall Co.
Noble & Wood Machine Co.
Rotogravure Engrg. Co.
J. J. Ross Company
Ross Paper Machinery Co.
Shartle Brothers Machine Co.
VALVES
The Bristol Company
Cochrane Corp.
Crane Company
Dilts Machine Works
Fibre Making Processes, Inc.
The Foxboro Company
E. D. Jones & Sons Co.
Magnus Metal Corp.
D. J. Murray Mfg. Co.
Noble & Wood Machine Co.
The Permutit Company
William Powell Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Taylor Instrument Companies
Valley Iron Works Co.
Walworth Company
VALVES, LUBRICATED PLUG
American Car & Foundry Co.
VATS & VAT PARTS
Union Machine Co.
Union Screen Plate Co.
WASHERS
Bird Machine Company
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
Noble & Wood Machine Co.
The Sandy Hill Iron & Brass Wks.
Rodney Hunt Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.
WATER CONDITIONING
Cochrane Corp.
The Permutit Company
WATER DISPERSIONS
American Anode, Inc.
WAXING MACHINERY
Black-Clawson Co.
Potdevin Machine Co.
Rotogravure Engrg. Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.
WELDING EQUIPMENT
Allis-Chalmers Mfg. Co.
General Electric Company
Walworth Company
Westinghouse Electric Corp.
WET MACHINES
Black-Clawson Co.
Carthage Machine Co.
Downingtown Mfg. Co.
Moore & White Co.
Montague Machine Co.
Noble & Wood Machine Co.
Pusey & Jones Corp.
J. J. Ross Company
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
WINDERS AND REWINDERS
Black-Clawson Company
Cameron Machine Co.
Dietz Machine Works
Downingtown Mfg. Co.
Thomas W. Hall Co.
Hudson-Sharp Mach. Co.
Langston Co., Samuel M.
The Kohler System Company
Montague Machine Co.
Moore & White Co.
Paper Converting Mch. Co.
Potdevin Machine Co.
Pusey & Jones Corp.
Rotogravure Engrg. Co.
J. J. Ross Company
The Sandy Hill Iron & Brass Wks
Smith & Winchester Mfg. Co.
South Wabash Engrg. Co.
Waldron Corp., John
WIRES
Appleton Wire Works
Black-Clawson Company
Bulkley, Dunton Pulp Co., Inc.
Cheney Bigelow Wire Works
Hayden Wire Works
International Wire Works
Lindsay Wire Weaving Co.
Shartle Brothers Machine Co.
WOOD PEELERS
Nekoosa Fdy. & Mch. Wks., Inc.
WOOD SPLITTERS
Carthage Machine Co.



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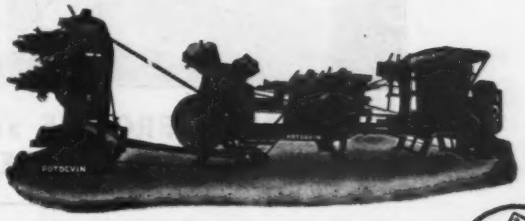

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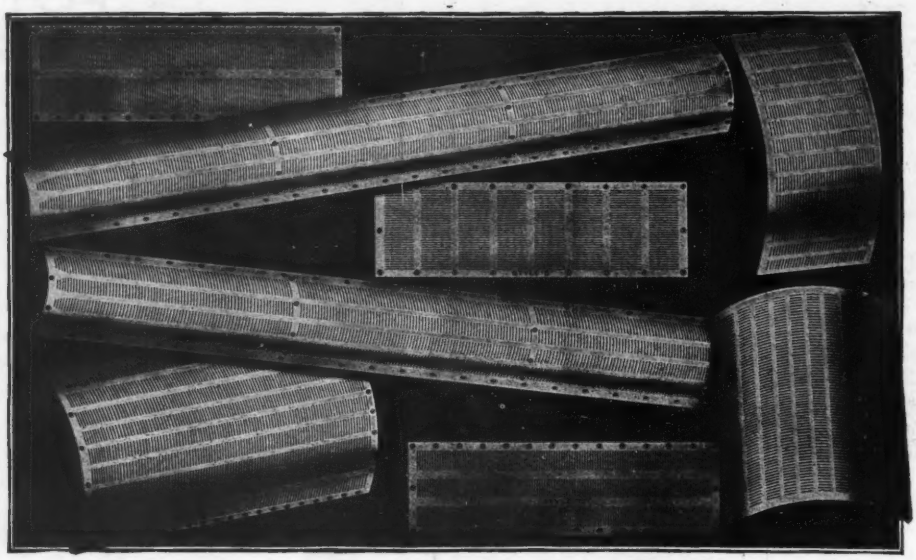

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BULKLEY, DUNTON PULP COMPANY, INC.

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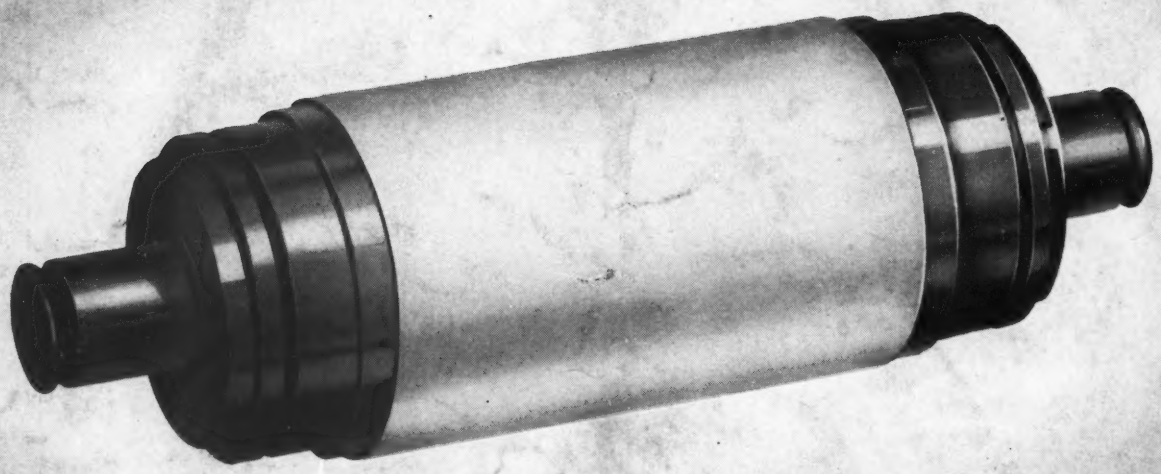

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